1 September — 15 September, 2015
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Bloomberg Businessweek® Middle East

Algeria DZD 215	Egypt EGP 18	Jordan JOD 2	Lebanon LBP 4000	Oman OMR 1	Saudi Arabia SAR 10	UAE AED 10
Bahrain BHD 1	Iraq IQD 3200	Kuwait KWD 0.75	Libya LYD 3.5	Qatar QR 10	Syria SYP 200	Yemen YER 600

Bloomberg Businessweek Middle East
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The last drop

ILLUSTRATION LA CHINA M

Bloomberg Businessweek Middle East

1 September — 15 September, 2015

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Technology

Markets/Finance

Features

Etc.

Cover Trail

How the cover gets made

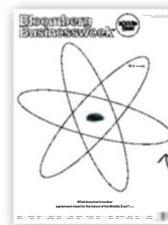
Oil prices are down. Economic diversification in the Gulf states is a hot topic. That's the cover story.

So... economic diversification? Do you just pick these topics to make my life hell. How am I meant to design a cover about economic diversification?

You're right, that's a stinker. How about going backwards? Make it about the dependence on oil.

❶ Oh, that's a fine idea. How about this then?

Looks great. But just not quite sure what it is. Very artsy though.



❷ Ok. This? Going for the energy vibe.

Yeah, I see what you're going for but it says "atomic energy" to me a bit too much.

❸ Ok. This? The region's going to run out of oil at some point, right? And that should be part of the impetus for diversification. So showing the last little drop has some impact, yeah?

It does. But it's a bit too minimalistic. Is there anything we can do to show that the Gulf's economies are over-dependent on oil. Some sort of image that says, at the moment, they can't do without it.

❹ I've got it. A blood bag drip, but it has oil in it.

We did it. We made the impossible–creating a cover about economic diversification–into the possible. And we did a mighty fine job of it, too. High-five!

Erm, no thanks.

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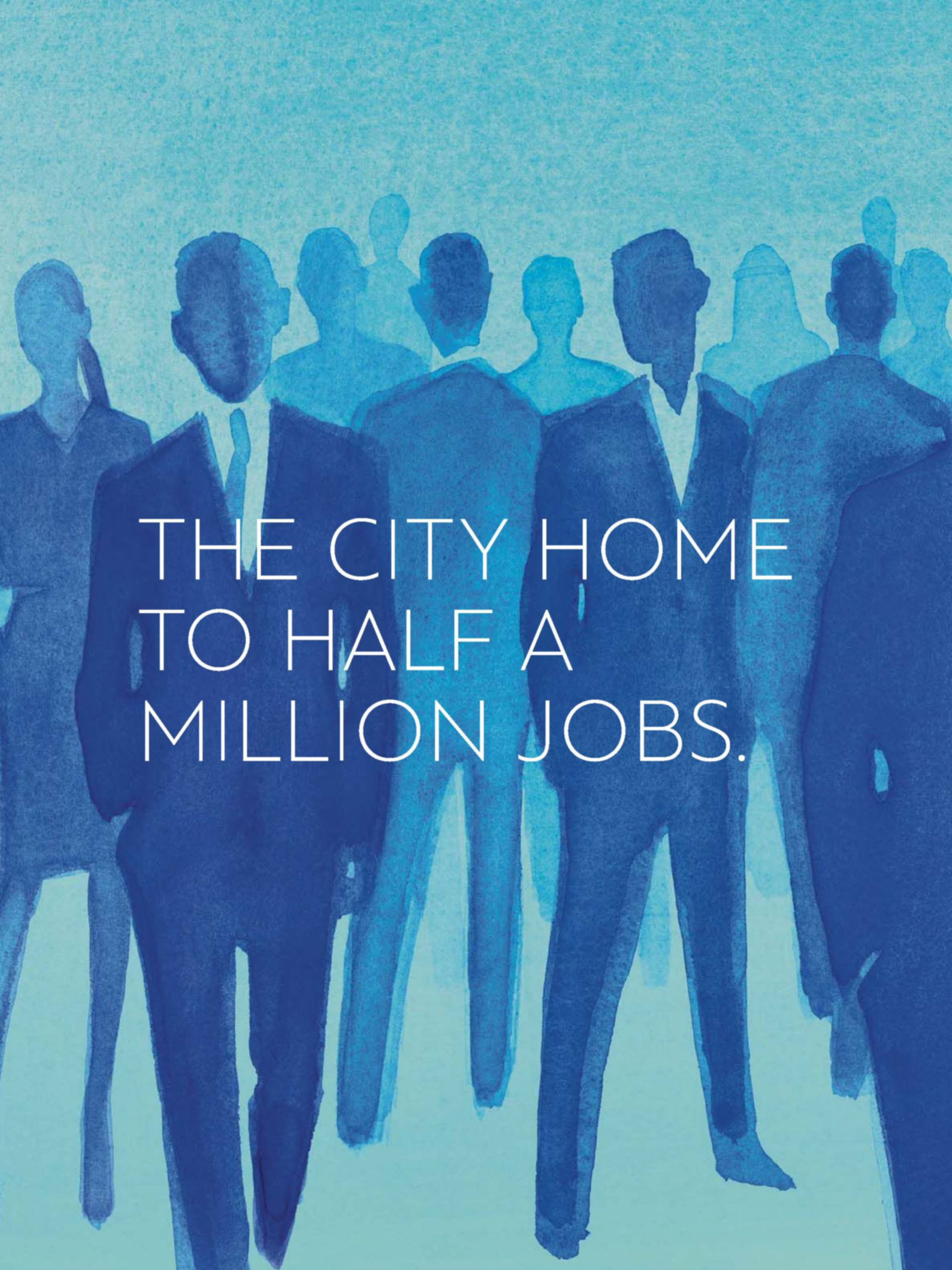

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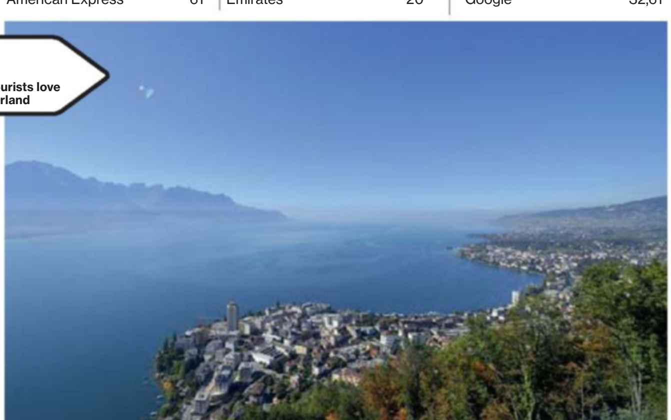

Bloomberg Businessweek Middle East

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UMS International FZ LLC, a division of United Media Services. PO BOX 503048, Building No 10, Office 346, Dubai Media City, Dubai, UAE.

Printed by:
EMIRATES PRINTING PRESS DUBAI

BLOOMBERG BUSINESSWEEK HQ
731 Lexington Ave, New York, NY 10022, United States,
www.businessweek.com

AFP (4)

Opening Remarks

Make Trade, Not War

By Nisid Hajari

Partition broke up an enormous economic bloc seven decades ago. Pakistan and India should try to put it back together

1946

1950

1966

1972

If you haven't kept watch on the cold war between India and Pakistan, you haven't missed much. The two countries are locked in a depressingly familiar stasis whose roots trace back to the 15 August, 1947, partition of British India. Several weeks of massacres claimed the lives of anywhere from 200,000 to 1 million Hindus, Muslims, and Sikhs, while 14 million more were uprooted from their homes. Rancour and mistrust have lasted seven decades: Tentative moves toward rapprochement are regularly followed by provocations, threats of retaliation, and exchanges of fire along the disputed border in Kashmir.

The pattern has changed little under current leaders Nawaz Sharif in Pakistan and Narendra Modi in India, though their governments are at least giving talks another chance. On 23-24 August, the two countries' national security advisers had planned—but failed—to meet in New Delhi to discuss "all issues connected to terrorism," including the Pakistan Army's links to militant groups who've conducted attacks inside India. But if both sides truly want to improve relations, the first item on their agenda should have been trade, not terror.

South Asia is one of the world's least integrated regions, with trade among neighbours accounting for only 5 per cent of the total. (In Southeast Asia, the figure is 25 per cent.) The irony is that before partition these countries formed more or less a single market, knit together not just by commerce but also by a network of British-designed roads, canals, and railroads.

The subcontinent's economies wouldn't necessarily have been better off had they remained united. Under the British, the areas that would become Pakistan and later Bangladesh served mostly as sources of raw material to the rest of India. That changed after 1949, when India devalued its rupee and its Muslim neighbour refused to follow suit. The stronger currency, combined with a commodity boom sparked by the Korean War, allowed Pakistan to accumulate the surpluses needed to industrialise. For three decades, its economy averaged annual growth around 6 per cent—nearly double what socialist India could manage. Once India began to liberalise its economy in 1991, though, the fortunes of the two nations reversed.

Today, the cost of continued fragmentation is clear. Official bilateral trade between the nuclear-armed rivals totalled less than $3 billion last year—a tenth of its potential, according to the Indian Council for Research on International Economic Relations (ICRIER). And both governments lose out on millions in customs revenue due to a thriving unofficial trade that escapes formal scrutiny.

While some businesses might struggle to compete if the borders were opened, many more would benefit. Technology transfers from India would help make Pakistan's farmers more productive and its factories more competitive. Indian outsourcing firms could tap cheaper Pakistani labour, while Indian pharmaceuticals, auto components, tyres, and chemicals could find new customers. Consumers on both sides would enjoy lower prices. The rewards could grow exponentially if both countries were able to smooth out impediments to trade—untangling red tape, improving roads and railways, upgrading

logistics. A study by World Bank researchers estimated that easing such roadblocks could increase Pakistani exports to India more than 200 per cent.

For Pakistan, gains from transit could dwarf even those from trade. Historically, the northwestern corner of the subcontinent served as a gateway to Central Asia and the Middle East. If security concerns could be ameliorated and infrastructure improved—two huge ifs—Pakistan could again take its place as a thriving regional hub, linking a rapidly growing India to the resource-rich ’Stans and the Middle East’s petro-states. Ijaz Nabi, a former World Bank official and economics professor at the Lahore University of Management Sciences, says containers could eventually travel overland from India to Europe in a week—twice as fast as the sea journey.

Not surprisingly, each side blames the other for the lack of progress. While India granted Pakistan most-favoured-nation status in 1996 after both countries joined the World Trade Organization, the latter has yet to reciprocate, despite pledging to do so nearly four years ago. (Although it has greatly reduced the number of Indian items subject to high duties or outright bans.) Pakistani negotiators say India needs to lower so-called nontariff barriers that disadvantage Pakistani producers: everything from stifling licensing and inspection rules to subsidies for Indian farmers. India reasonably (if not quite helpfully) points out that all exporters face the same barriers to entry. In return, New Delhi blames Pakistan’s powerful military for sinking a potential deal last year that would have opened up road and rail traffic throughout the subcontinent. Accusations, like opportunities, run at a surplus in this relationship.

While direct transit through Pakistan would be the most efficient means for India to reach countries to the north and west, intractable suspicions are leading both Islamabad and New Delhi to favour other options. Pakistan is working with China on a $46 billion “economic corridor” from the Chinese province of Xinjiang to the Pakistani port of Gwadar. This network, which makes India extremely wary, will include energy and telecommunications projects as well as road, rail, and pipeline infrastructure; it is meant to complement China’s ambitious initiative to knit together the Eurasian landmass.

For its part, India is reviving efforts to develop the Iranian port at Chabahar, which promises an alternate means of reaching Afghanistan and Central Asia, not to mention of importing more oil and gas from Iran once sanctions are lifted. On its other border, India is partnering with Bangladesh, Bhutan, and Nepal to allow the free movement of cars and trucks across their borders—effectively moving ahead without Pakistan. Improved connectivity could expand India’s access to a Southeast Asian common market with a combined gross domestic product of $2.5 trillion.

A thriving economic relationship would be “a very powerful means to conflict resolution”

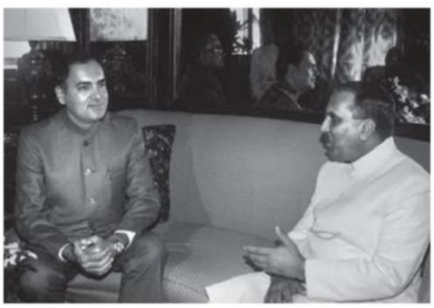
All this geopolitical jockeying undermines what should be shared goals for the region: to enhance stability and to shrink the space for Islamic militancy. Rather than trying to circumvent the Pakistan-China corridor, Modi’s government would be wise to coordinate its own huge infrastructure plans with Beijing’s to take advantage of the new trade routes opening up. Pakistan should shed its own suspicions about Indian intentions, lift remaining trade barriers, and actively pursue closer infrastructure links throughout the region. “What we’re blocking is 20 countries potentially getting interconnected,” says ICRIER’s Nisha Taneja.

Improving the trade climate will demand more than lower tariffs. If businessmen are to create new and vibrant supply chains, they have to be allowed to invest freely across the border, form joint ventures, and send remittances home. They need to be able to obtain visas easily and travel widely. Both countries urgently have to improve their ports, highways, railroads, and border crossings.

Most important, the trade agenda can’t be a hostage of security talks. Businesses require stability and predictability if they’re going to invest—clear rules and clear means of redress. They can’t be expected to make long-term commitments if policies keep changing after every militant attack or artillery exchange in Kashmir.

By contrast, a thriving economic relationship would be a disincentive to taking up arms at the next inevitable crisis. “That would be a very powerful means to conflict resolution,” says Taneja. Closer economic ties have shrunk the likelihood of conflict elsewhere in Asia—between China and Taiwan most notably, but also between the mainland and archrival Japan. A panel sponsored by the Pakistan Business Council has estimated that trade volumes in the range of $10 billion to $15 billion annually would create enough of a lobby on both sides of the border to keep relations steady. Even the Pakistan Army, which benefits from ongoing tensions, could look forward to fatter defence budgets if GDP growth picks up. Trade alone won’t heal the divide carved out by the 1947 partition. But it’s a salve surely worth applying. Ⓑ

Hajari, a member of Bloomberg’s editorial board, is the author of Midnight’s Furies: The Deadly Legacy of India’s Partition.



1985

1998

2004

2013

Even before the 1947 partition, deep personal animosity divided Jawaharlal Nehru, who would lead India, and Muhammad Ali Jinnah, the father of Pakistan. The ensuing decades saw three wars as well as attempts at rapprochement—none of which stuck.

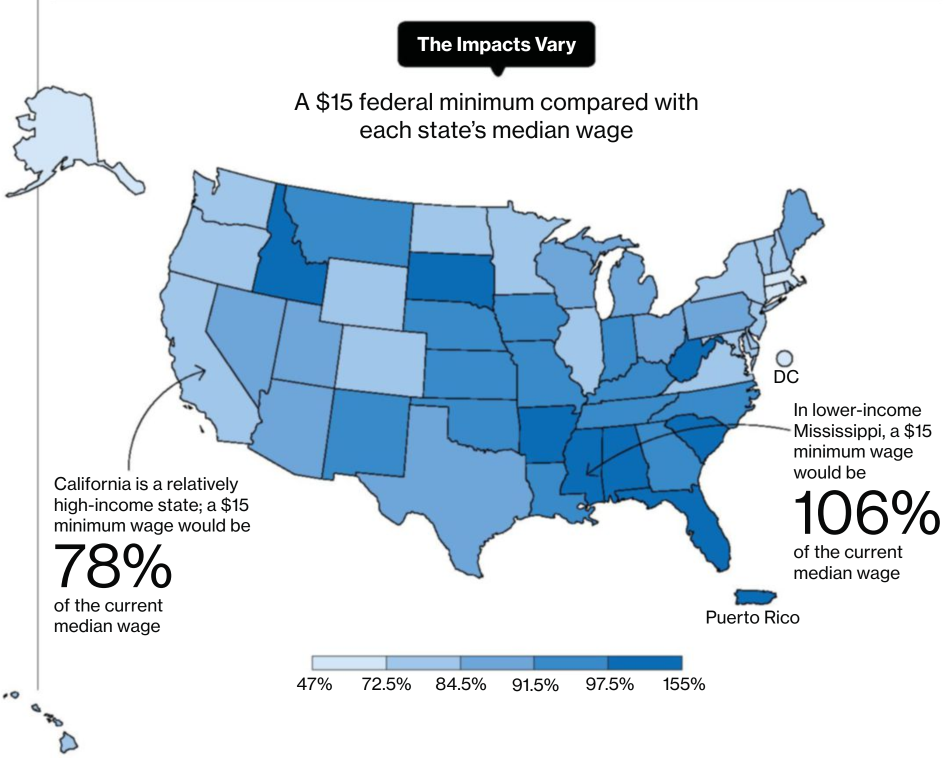
FROM TOP LEFT: ARCHIV PETER RUHE/AKG IMAGES; BETTMANN/CORBIS; TOPFOTO/THE IMAGE WORKS; AP PHOTO; CHARLYN ZLOTNIK/GETTY IMAGES; REUTERS; STAN HONDA/AFP/GETTY IMAGES; JOSHUA LOTT/REUTERS

1 September — 15 September, 2015

Is a $15 Minimum Wage Too High?

▶ **Many economists say it wouldn't work nationwide**

▶ **"We have no experience with an increase…of that size"**



DATA: US BUREAU OF LABOR STATISTICS, PROJECTIONS FROM MAY 2014

As the proposed US federal minimum wage goes up and up, economists support it less and less. In January 2014, seven Nobel laureates and eight ex-presidents of the American Economic Association signed a letter backing a federal minimum wage of $10.10 an hour by 2016, up from $7.25. They said it would "provide a much-needed boost" to low-income workers while causing "little or no" job loss. Fifteen dollars an hour is another story. None of those luminaries signed the letter in July that endorsed a Senate bill introduced by presidential candidate Bernie Sanders (D-Vt.) to raise the federal minimum to $15 an hour by 2020.

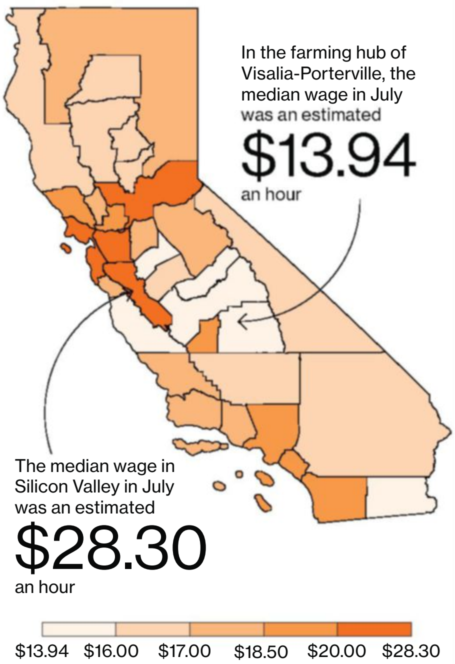
Regional economic differences are one reason a lot of economists are nervous about jumping to $15: A wage floor that's right for New York or San Francisco could be too high for Brownsville, Texas; Gadsden, Alabama; or Ponce, Puerto Rico. In such places, $15 an hour "may have large negative employment effects," Ronald Ehrenberg, a Cornell University labour economist, wrote in an e-mail. He was one of about 600 economists who signed the $10.10 letter last year. He says he wasn't approached to sign the $15 letter but would have said no if asked.

A $15 minimum is just 67 per cent of the median wage in high-cost Alaska, so it would have a modest effect if implemented today, lifting pay of people at the bottom but not affecting the middle rungs of the income ladder. In Puerto Rico, though, $15 is 155 per cent of the median wage. If the federal minimum were raised to $15 today (rather than in 2020, as Sanders proposes), it would be 55 per cent higher than the midpoint of what all Puerto Ricans earn. That would cause severe stress in a financially struggling territory already squeezed by the $7.25 minimum. Even within a single state, it's hard to come up with a minimum that works everywhere. In California, the median wage varies from more than $28 an hour in Silicon Valley (technically San Benito and Santa Clara counties) to less than $14 in Visalia-Porterville, a farm town 305 kilometres away by car.

Those who argue for a high federal floor say that $15 won't cost many jobs even in low-wage parts of the country because minimum-wage workers are productive enough to justify much higher

Extreme Disparities

There are big differences in median wages even within a given state



pay. The letter signed by more than 200 economists supporting Sanders's $15 an hour says the federal minimum would be $26 an hour if it had risen with labour productivity since 1968.

But new research by economist Robert Lawrence of Harvard challenges the notion that workers' pay has failed to keep up with gains in productivity—i.e., their output per hour of work. Lawrence says the conventional comparison understates workers' pay and overstates their output—the value of goods or services they create. On the pay side, he includes benefits, and he figures in the pay of all workers, not just production and nonsupervisory ones. On the output side, he subtracts depreciation—the wear and tear on plants and equipment that must be replaced someday—to capture workers' net rather than gross output. And he calculates that the value of goods and services that workers produce hasn't risen as rapidly as the value of goods and services they consume, causing their buying power to stagnate. Lawrence doesn't dispute the growing inequality in pay, but says the $26-an-hour argument "ignores all those other factors that explain that gap."

Some high-profile economists do support $15 an hour. Jared Bernstein, a former chief economic adviser to Vice President Joe Biden, wrote a 31 July blog post noting that employers would have five years to prepare for the new floor in Sanders's bill. Bernstein, a senior fellow at the Center on Budget and Policy Priorities, said whatever job losses there are would be outweighed by pay gains for the majority of low-income people who kept their jobs. "Millions of people rationally support large increases because they expect to gain from them," he wrote. Robert Pollin, the University of Massachusetts Amherst economist who circulated the $15 letter for the Sanders campaign, quickly collected the 200 signatures from friends and followers of the Political Economy Research Institute, the liberal think tank that he co-directs. He says he doesn't know how many of the big names who signed the $10.10 letter might have signed his because he didn't have time to reach out to them.

There's no question among economists that the minimum wage represents a trade-off. On one hand, it does lift incomes. On the other, the higher it is, the more marginal workers will be priced out of the market. Those include teenagers seeking their first paid jobs, the poorly educated or handicapped, and people living in areas with chronically low productivity—perhaps because of inadequate investment in the machinery and software that workers need to boost output.

The question, then, is where is the sweet spot? Katharine Abraham, President Bill Clinton's commissioner of the Bureau of Labor Statistics and later an economic adviser to President Obama, signed the $10.10 letter, but, like Cornell's Ehrenberg, says she would have said no to the $15 letter. "We have no experience with an increase in the national minimum of that size and I am concerned about what a $15 minimum nationwide would do to employment," she wrote in an e-mail.

Both Abraham and Ehrenberg argue that the federal minimum should be on the low side, with cities where productivity and living costs are high setting higher minimums as they see fit. Los Angeles, San Francisco, and Seattle are scheduled to go to $15 an hour in the next several years, while Chicago and Kansas City are raising their minimums to $13. In July a New York state board recommended a $15 floor for fast-food chains by the end of 2018 in New York City and July 2021 in the rest of the state. High-wage SeaTac, Washington, raised the local floor to $15 in 2014. That squeezed profits at the upscale Cedarbrook Lodge, which nonetheless went ahead with a 63-room expansion.

A good rule is to set the minimum at half the local median wage, says Arindrajit Dube, a University of Massachusetts at Amherst economist and a leading researcher on minimum wages' impact on jobs. That is "in line ▶

Are Workers Underpaid?

Hourly inflation-adjusted wages of production workers rose only 1 per cent from 1970 to 2013, even though gross output per hour of work soared 137 per cent. That 136 percentage-point gap seems unfair.

He adjusts pay higher by counting all workers, not just those in production and nonsupervisory jobs, and by taking benefits into account

But Harvard economist Robert Lawrence says the true pay/productivity gap is only

15

percentage points

He adjusts workers' output lower by factoring in losses from wear and tear and notes that what workers produce (such as machines) hasn't grown in value as quickly as what they buy (such as houses)

◀ with the international average and with the US average during the 1960s and 1970s," he wrote in a paper for the Hamilton Project, a policy initiative of the Brookings Institution. The Dube standard would produce minimum wages above $11 an hour today in Alaska and Massachusetts and above $10 in Connecticut and New York, but slightly below the current federal floor of $7.25 in Arkansas and Mississippi–and under $5 in Puerto Rico. —*Peter Coy*

The bottom line Many economists who support a federal minimum wage of $10.10 an hour are uneasy about a minimum of $15.

Bailouts

Can Putin Save Russia's Struggling Companies?

▶ The government and central bank are spending billions trying

▶ "There's no limit to where they're looking now"

Russian agribusiness group **EkoNiva** recently got a 2 billion rouble ($32 million) loan to expand its dairy operations in the Black Earth region of Voronezh. There's nothing unusual about that, except that the loan came from the Central Bank of Russia, which has set aside 100 billion roubles to help finance industrial and agricultural projects.

Central bankers usually stick to macroeconomic policy and leave business lending to others. But Western sanctions imposed against Russia for its aggression in Ukraine have made it hard for the country's banks and companies to raise money. So over the past few months, Russia's central bank and government have become lenders of last resort. "We need to quickly saturate the economy with long-term, cheap financing," says Andrey Margolin, an economist and vice rector of a state economics academy with close ties to Vladimir Putin.

> "The big miss in 2008 was the failure to use the crisis to pursue deep structural reforms."
> —*Bernie Sucher, UFG Asset Management*

The government says it's prepared to spend as much as 60 per cent of a $75 billion sovereign wealth fund to help provide financing for companies as well as major industrial and infrastructure projects. It's also pressuring the central bank to expand its project finance programme. Separately, the bank has pumped tens of billions into the nation's financial institutions since last year, and has helped state oil giant **Rosneft** raise money to pay $26 billion in foreign currency debt.

Moscow has restricted Western imports in retaliation for the sanctions, and a weaker rouble has made foreign goods more expensive. That should have created opportunities for Russian companies by boosting demand for their products at home. But high domestic interest rates and the lack of access to foreign capital have prevented many from taking advantage of the situation.

EkoNiva would have had to pay at least 16 per cent interest on a commercial bank loan, vs. the 11.5 per cent it got under the central bank programme, according to Wolfgang Bläsi, chief financial officer of EkoNiva's German-based parent company. The central bank funnels the aid through a state-owned agricultural bank.

As the central bank poured short-term financing into the banking system, lenders were instructed "to put at least 50 per cent into projects the government wanted," says Vyacheslav Smolyaninov, chief equity strategist at BCS Financial Group in Moscow. And the Kremlin drew up a list of 199 "systemically important" companies that will receive priority for aid, including loan guarantees. State-owned energy giants Rosneft and **Gazprom** are on the list, as well as supermarket chains, a fertiliser company, and a consumer electronics retailer.

Including the money in the sovereign wealth funds, the government has $358 billion in foreign currency reserves and gold. So why not put some to work aiding businesses? One problem is that some banks and companies are poorly managed and deserve to go under, according to Bernie Sucher, a long-time US investor in Russia who serves on the board of Moscow-based UFG Asset Management. Bailing them out only delays the day of reckoning, he says. That's what happened in the 2008 financial crisis in Russia, when "the government sprayed liquidity all over the economy," he says. "The big miss in 2008 was the failure to use the crisis to pursue deep structural reforms."

The Kremlin's largesse will only tighten its control over an economy ▶

Promises, Promises

What's been earmarked for some companies

Sukhoi Civil Aircraft
State company's venture with Italy's Alenia Aermacchi
$1.9b
for new Sukhoi Superjet 100 passenger plane

Russian Railways
State railroad group
$3.4b
for locomotives and rail upgrades

Rosatom
State nuclear export monopoly
$2.4b
for construction of nuclear plant in Finland

Novatek
Privately owned energy company hit by Western sanctions
$2.4b
for Yamal liquefied natural gas project in the Arctic

ILLUSTRATION BY BRAULIO AMADO


AN ICON JUST GOT LARGER
BREITLING
1884
THE NAVITIMER 46 mm

◀ already dominated by large, inefficient state-run companies such as Rosneft—a situation that weighs on the economy. Russia's growth began flagging in 2012, long before last year's decline in oil prices and sanctions pushed the economy into crisis.

The $358 billion stash could be drained pretty quickly. Reserves already are down 30 per cent from last year's peak, as the central bank has repeatedly stepped into the currency markets to buy roubles. If crude oil remains close to the recent price of about $50 a barrel next year, the Kremlin is likely to deplete a $73 billion sovereign wealth fund it's been using to fill a budget shortfall. In that case it would probably turn to the $75 billion wealth fund—originally intended to buttress the country's pension system—now being tapped for corporate aid, says Dmitry Polevoy, chief Russia economist at ING Bank Eurasia in Moscow.

More than $20 billion in that fund has been earmarked for projects, but relatively little has been spent. That's partly because the Kremlin is carefully doling out the money in installments and partly because red tape and bureaucracy have slowed distribution, Polevoy says.

Central Bank Governor Elvira Nabiullina is reluctant to expand the lending programme that aided EkoNiva. She said in June that the programme hadn't stimulated private investment, as backers had predicted it would. Others, including Dmitry Tulin, a first deputy central bank governor, want to do more. "If our financial system doesn't turn its face toward material production, then our country won't have a future," he told the newspaper *Komsomolskaya Pravda* in April. Meanwhile, the Kremlin is mining new sources of aid. Its latest find: Rusnano, a state investment fund created in 2011 to support an emerging nanotechnology industry. On 27 July, Rusnano announced it would put almost $100 million into a new pool for Russian companies that would help reduce the country's dependence on imported technology. Its co-investor: Moscow-based **SMP Bank**, owned by Putin friends Boris and Arkady Rotenberg. "There's no limit to where they're looking now," a senior government official says. "They're taking money wherever they can find it." —*Carol Matlack, with Ilya Arkhipov and Andrey Biryukov*

The bottom line Russia's central bank and government are spending billions to prop up struggling companies and projects.

[redacted]

Environment

China Gets a Little More Fresh Air

▶ Idled factories, less coal use, lower emissions make breathing easier

▶ "We're lucky—we have blue sky for these photos"

On a Tuesday afternoon in late July, a newlywed couple prepared to pose for their wedding portraits in front of Beijing's historic Drum Tower. Lily Chen, 28, in a sparkling white gown and tiara, checked her makeup in a mirror—and then looked up the Air Quality Index (AQI) on her smartphone.

Using data from the US Embassy's air-pollution monitoring station, a popular website and app display air-quality information in real time. At that moment, just a few minutes after noon, the level of particulate air pollution was 96 on a scale of 500. That's comparatively tolerable for the capital, where the index exceeded 500, its nominal maximum, during the 2012-13 winter "airpocalypse." "We're lucky—we have blue sky for these photos," Chen says. "Otherwise we'd have to fix the sky with Photoshop."

Beijing has seen more bluish skies this year than in the first half of 2014, according to data from China's Ministry of Environmental Protection and analysed by Greenpeace East Asia's Beijing office. The 189 cities for which Greenpeace crunched data showed an average drop of 16 per cent in levels of PM 2.5—particulate matter less than 2.5 microns in diameter that can lodge in the lungs. Beijing's average PM 2.5 level dropped 15.6 per cent, an improvement, though the World Health Organization says its air pollution on most days still greatly exceeds the level deemed safe. The city that reduced PM 2.5 the most—by 42 per cent—is Baoji, in Shaanxi province, the heart of coal country.

China's urban air pollution is the result of heavy industry, power plants, and vehicle emissions. Particulate matter is the product of chemical reactions between other pollutants. It's difficult to pin the improved air quality on a single factor, but Greenpeace East Asia energy and climate campaigner Dong Liansai says "one of the most important trends is the reduction in coal burning."

Nationwide, coal consumption dropped 5 per cent in four major industries—power, steelmaking, chemicals, and construction—in the first half of 2015 from the same period last year. The economic slowdown likely played a significant role, but it's not the whole story, Dong says. China has increased reliance on energy from non-fossil fuels. Wind, solar, and biofuel accounted for 2.3 per cent of the total energy mix in 2014; nuclear made up 0.9 per cent; and hydro, 8 per cent, according to the United Nations. China's National Energy Plan has set a target of reducing coal's share of energy consumption from 66 per cent last year to less than 62 per cent by 2020.

In the past year, Beijing has shut down three of its four coal-fired power plants; the last is scheduled to close next year, and natural gas has taken coal's place. The city has restricted the number of new vehicles on the road using a

Basking in the sun in a suburb of Beijing

SIM CHI YIN/VII

licence-plate lottery. Downturns in such energy-intensive industries as steel and glass, concentrated in the nearby areas of Hebei and Tianjin, have also improved regional air quality, says Song Ranping of World Resources Institute in Beijing.

"In the past we've seen the government try to reverse policies when a slowdown occurs," Song says. During the last recession, Beijing's emergency stimulus package allowed unprofitable heavy industries to stay afloat and keep polluting. Now the government appears willing to let some factories fail. Those that stay in business must meet stricter environmental targets, he says.

Not every major city saw improvement. Shanghai's PM 2.5 level rose 1.6 per cent from the previous year. Of the 189 cities studied, 10 per cent had rising readings of the pollutants.

"China has made big strides in its efforts to reduce the amount of carbon and other pollution that comes from burning coal," says Indiana University economist Anthony Liu, who's tracked the drop in sulphur dioxide and nitrogen dioxide, pollutants almost as toxic as PM 2.5. That's welcome news especially in Beijing, which will host the Winter Olympics in 2022. —*Christina Larson*

The bottom line China's efforts to reduce pollution by cutting coal consumption have produced moderately encouraging results.

Risk

The Shale Patch Faces Reality

- ▶ Shale producers lack the majors' ability to remain afloat in an oil glut
- ▶ "A year ago, you could hedge at $85 to $90, and now it's in the low $60s"

Not long ago the oil industry looked like it had dodged a bullet. After the worst bust in a generation cut crude prices from $100 a barrel last summer to $43 in March, the oil market rallied. By June, prices were up 40 per cent, passing $60 for the first time since December. Oil companies that had cut costs began planning to deploy more rigs and drill more wells. "We didn't think we'd be quite this good," Stephen Chazen, chief executive officer of **Occidental Petroleum**, told analysts in May.

The runup was short-lived. Fears over weak demand from China, along with rising production in the US, Saudi Arabia, and Iraq pushed prices back below $50. In July, even as the summer driving season boosted US petrol demand close to record highs, oil posted its biggest monthly drop since October 2008. "The much feared double-dip is here," Francisco Blanch, head of global commodity research at Bank of America, wrote in a 28 July report.

The largest oil companies are reporting their worst results in years. **ExxonMobil**'s second-quarter net income fell 52 per cent; **Chevron**'s fell 90 per cent. **ConocoPhillips** lost $180 million. Billions of dollars in capital spending have been cut, and more layoffs are likely. Part of the problem facing the majors is that they're producing in some of the most expensive places on earth: deep water and the Arctic.

With their healthy cash reserves the majors can hold out for higher prices, even if they're years away. The same can't be said for many of the smaller companies drilling in the US shale patch. Shale producers had bought themselves time by cutting costs, locking in higher prices with oil derivatives, and raising billions from big banks and investors. Many cut drilling costs by as much as 30 per cent, fired thousands of workers, and renegotiated contracts with oilfield service companies. "That postponed the day of reckoning," says Carl Tricoli, co-founder of private equity firm Denham Capital Management.

But it's not clear what's left to cut. The futures contracts and other swaps and options they bought last year as insurance against falling prices are beginning to expire. During the first quarter, US producers earned $3.7 billion from these hedges, crucial revenue for companies that often outspend their cash flow. "A year ago, you could hedge at $85 to $90, and now it's in the low $60s," says Chris Lang, a senior vice president with Asset Risk Management, a hedging adviser for oil companies. "Next year it's really going to come to a head."

Over the first half of 2015, US shale producers were able to raise about $44 billion in debt and equity, according to UBS. As oil prices keep falling, investors are losing their appetite for risky shale debt. Bonds have become more expensive and are laden with more onerous terms, including liens against drillers' oil and gas assets. More than $24 billion of the $235 billion in debt owed by 62 North American independent oil companies is trading at distressed levels, meaning their yields are more than 10 percentage points above US Treasuries.

Regulators have warned of the risks of lending to US shale drillers, threatening a cash crunch in an industry that's more dependent than ever on other people's money. In October, as they do twice every year, banks will reevaluate drillers' lines of credit, which are often based on the value of reserves. If prices stay where they are, many companies could be cut off from crucial funding. "For the weaker companies, it could be very, very painful," says Jimmy Vallee, a partner in the energy mergers and acquisitions practice at law firm Paul Hastings in Houston. "Some of them are essentially running on fumes."

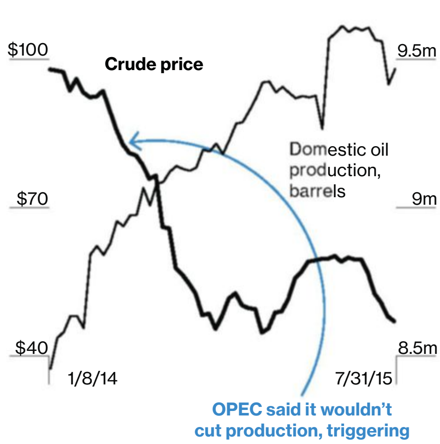
Over the past year, shale producers have lowered their costs so much that the average break-even price for a barrel of US crude is now in the upper $40s, down from $60, according to research from IHS Energy. That's allowed them to keep producing, feeding the glut that continues to weigh down prices. At some point, though, they may have to pull back. —*Matthew Philips, Asjylyn Loder, and Bradley Olson*

The bottom line The renewed decline in oil prices has made it hard for shale producers to issue stock or sell bonds.

> **"For the weaker companies, it could be very, very painful. Some of them are essentially running on fumes."**
> —*Jimmy Vallee, Paul Hastings*

More Oil for Less Money

Despite falling prices, US crude output has increased



DATA: COMPILED BY BLOOMBERG

Bringing the Swiss Cheese

▶ **Wealthy Gulf tourists are easing the strong-franc woes of Switzerland's tourism industry**

▶ **"It may be more expensive but for us it's well worth it"**

Overlooking the palm trees and sparkling blue waters of Lake Lugano, the Belle Epoque Hotel Splendide Royal is looking to the East to make its guests feel welcome. By devising an extensive menu of Middle Eastern cuisine, the five-star establishment opened in 1887 is part of efforts by Switzerland's tourist industry to attract visitors from emerging markets to offset a decline among European visitors, put off by the strength of the Swiss franc.

> **"Developing nascent markets is helping to compensate for the declining numbers from Europe–but it's not offsetting it 1 to 1."**
> ***—Daniela Baer, a spokeswoman for the Swiss tourism board***

Arab visitors come because "the perception of Switzerland is that of a tidy country and a safe place with a lovely landscape," Splendide Royal General Manager Giuseppe Rossi says, explaining that he's travelled to countries including Kuwait, Saudi Arabia and Qatar in 2015 to nurture client relationships. The number of bookings from mid-eastern countries has climbed about 5 per cent this year, he says.

Since British mountaineer Edward Whymper and his team scaled the Matterhorn 150 years ago, the Swiss tourism industry has typically focused on welcoming European guests. The franc's strength against the euro in recent years has forced establishments to change course and target visitors from elsewhere.

In Geneva, where Saudi Arabia's King Fahd built a summer palace 35 years ago, the Grand Hotel Kempinski and the Mandarin Oriental have Arabic websites. The same goes for the Splendide Royal's menu, which features Lebanese wines and rose water pudding. In Switzerland, the number of overnight stays by guests from Saudi Arabia, Kuwait, Qatar and the UAE almost doubled to 725,000 between 2011 and 2014.

With the franc up roughly 13 per cent against the euro so far this year, hoteliers and restaurant owners are complaining of tough business conditions. The sector, which employs 210,000 people in a country of 8 million, has for years faced declining numbers of guests due to the strong currency. The central bank's decision in January to remove its cap on the franc of 1.20 per euro has only exacerbated the problem.

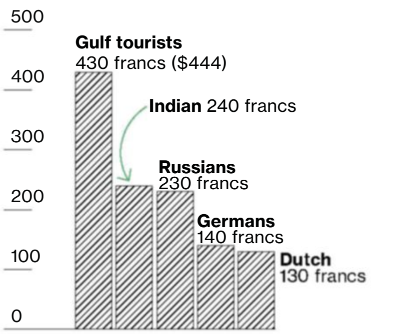
In a move that is likely to boost tourism, the Swiss government eased

Cyber attacks see Israel excel at cybersecurity 18

Briefs: Emirates grabs bragging rights for longest flight 20

Hey Big Spender!

Tourists from the Gulf outspend their nearest international counterparts by almost double per day



DATA: SWISS TOURISM BOARD 2013

the visa rules for Emirati citizens on tourist trips in June. "Developing nascent markets is helping to compensate for the declining numbers from Europe—but it's not offsetting it 1 to 1," says Daniela Baer, a spokeswoman for the Swiss tourism board.

More than half the overnight stays in the first six months were derived from European visitors, according to Swiss statistics office data. Chinese made up 5.9 per cent, while the Gulf region accounted for 2.4 per cent. The total number of overnight hotel stays of foreign visitors declined 1.9 per cent in the first half, the data showed.

It helps that visitors from the Gulf tend to be big spenders. They spent 430 francs ($444) a day on average in 2013, according to the most recent tourism board data available. That dwarfs visitors from India spending 240 francs per day, or Russians at 230. Germans, by contrast, spent 140 francs and the Dutch 130 francs.

Sarah AlDuiwaisan, 20, a student from Kuwait City, regularly visits Switzerland with members of her family, including her parents and aunts. They own a house in nearby Evian, France and spend their days in Geneva and touring sites such as Lausanne and Montreux. "I've come to Switzerland every summer since I was a baby," she says, enjoying the sunshine near Lake Geneva. "We relax, we take in the view. It may be more expensive but for us it's well worth it." —*Albertina Torsoli and Catherine Bosley*

The bottom line The Swiss tourism industry is chasing big spending Gulf tourists as the strong franc sees European visitor numbers dry up.

Retail

An American Mall King Tries to Conquer the UAE

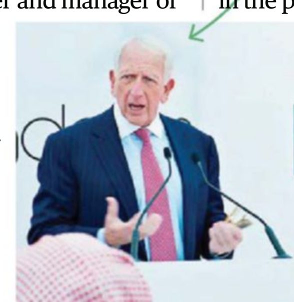
▶ **Ken Himmel is behind Abu Dhabi's Al Maryah Central**

▶ **"The Abu Dhabi market will be very receptive to it"**

Mention the idea of the death of the American mall to Ken Himmel, and he quickly gets animated as he reels off a list of projects he masterminded which, decades later, he claims are still thriving. Over the last thirty years he's developed the likes of Boston's Copley Place, Water Tower Place in Chicago and Pacific Place in Seattle, while in New York he's currently working on Hudson Yards, an ambitious mixed-use project featuring office, residential and retail space, in the heart of Manhattan.

He's now building on that portfolio with his second project in another hotbed of mall construction—the UAE—with Al Maryah Central. Construction work on the 288,200 square metre mall began in July, with Himmel saying it's scheduled to open on 1 March, 2018. Himmel's involvement with Al Maryah Central is as co-managing partner of **Gulf Related**, which is a joint venture between **Gulf Capital** and **Related Companies**—a major US developer for which Himmel heads up the mixed-use development subsidiary, Related Urban. "It's about what we put into these projects," he says. "It's proprietary knowledge and experience in how to do this, which very few people have. It's knowing how to bring together the talent pool to execute these projects."

Gulf Related and Himmel partnered with **Mubadala**—which is behind the rest of the island development—on the 51,000 square metre Al Maryah Galleria, a forerunner to its new neighbour Central, focusing on luxury brands. This time Gulf Related is the sole owner and manager of Central, having been sold the land for it by the Abu Dhabi government investment vehicle. (Mubadala continues to own a stake in Related Companies).



For a developer like Himmel, the UAE and the Middle East's major cities provide a blank slate on which he can stretch the bounds of his creativity; in stark contrast to his home country, where his work is largely restricted to redevelopment projects.

Just a couple of hours by road along the Arabian Gulf, in Dubai, is the real competition for Al Maryah Central. Mall of the Emirates and Dubai Mall attract vast numbers of Abu Dhabi residents, as well as those other audiences Himmel is looking to capture. Add the lower profile malls and the slate of major projects on the cards—including the sprawling Mall of the World and the Meydan One, announced last month—and it's understandable why Himmel is keeping his eye firmly on the local market.

> **"You stay fresh, always seeking the best new tenants and you're always willing to invest in your shopping centre to make sure you do that. And those who don't, they drop in appeal very quickly."** —***Ken Himmel, Co-Managing Partner of Gulf Related***

Andrew Williamson, Head of Retail at JLL Research, says there's still very much a need for high-end malls in Abu Dhabi. "It's missing in the market at the moment, to improve the level of the malls and the offering," he says. "The Abu Dhabi market will be very receptive to it. And from my understanding Yas Mall has done beyond expectations, so the retailers are happy with the performance there."

According to JLL's Q2 2015 real estate market update, there are currently 2.6 million square metres of gross leasable area in Abu Dhabi, with another 54,000 to be added in the second half of 2015, 85,000 in 2016, and 78,000 in 2017. In Dubai, JLL says there are currently 2.9 million square metres, with another 695,000 square metres being added between 2015 and 2017.

Williamson says the growth is needed in both markets: In Dubai, where a raft of upcoming residential and entertainment projects means there is plenty of demand in the pipeline, and in Abu Dhabi, which is also building its tourism infrastructure. "You have Reem Mall coming up, which is a little bit more geared to the mid-market," says Williamson. "It will have some unique entertainment and F&B offerings. Also ▶

PHOTOGRAPH ILLUSTRATION BY LA CHINA M; IMAGES: SHUTTERSTOCK; COURTESY GULF RELATED

Al Maryah Central will cover 288,200 square metres

160,000m2

of gross leasable area

◀ Saadiyat Island, the district, which is under design right now. Then you've got the Marina Mall expansion happening. In the next three or four years it will change the dynamic of the Abu Dhabi market."

In June Himmel took a tour of Dubai and Abu Dhabi, during which he met with established and potential retail partners. Himmel says it's important to develop the mall in partnership with retailers, rather than signing them up once plans have already been made. It's a process he's already gone through with Al Maryah Galleria. "When I came here five years ago I sat down with every operating retail platform in the region," he says. "I said if we do a project, we're going to do it with you hand in hand." Himmel says he aims to work in partnership with retailers early in the process so that they are "not speculating on the design of the project."

One of those key retail partners at Al Maryah Central is **Al Tayer Group**, which is providing the mall's two anchor tenants, in the form of Bloomingdale's and Macy's–the latter making its debut outside of the USA. Once complete, the mall will have more than 350 retail stores and restaurants, as well as a cinema and other entertainment facilities.

With the pace of development gathering not only in the UAE, but also around the GCC, Himmel knows his malls need to not only impress when they open, but remain relevant in the face of new competition. The key to that, he says, is constant reinvention. "You can see it now with Dubai Mall and Mall of the Emirates," says Himmel. "You stay fresh, always seeking the best new tenants and you're always willing to invest in your shopping centre to make sure you do that. And those who don't, they drop in appeal very quickly."
—*Rahul Odedra*

The bottom line Developer Ken Himmel's Al Maryah Central project in Abu Dhabi will help the emirate's retail sector compete with Dubai.

Cybersecurity

Why Being a Cyber Target Isn't All That Bad

▶ Frequent attacks have seen Israel become a leader in cyber defence

▶ "You can't be a good defender unless you understand the offence"

In 2013, **Israel Electric Corporation** registered several hundred potential hacks on its grid each hour. Last year, the figure grew to 20,000. None succeeded.

Israel Electric, which controls more than 80 per cent of the country's power production, has dramatically increased its cyber personnel, developed new defence tools and enhanced employee training, says Yosi Shneck, senior vice president of information and communications. The new protections reflect a nationwide effort to make Israel one of the most hack-proof countries in the world.

This year, the government established a national authority to help oversee protection of critical civilian systems, the military announced a reorganisation of all its anti-hacking units into one command and the central bank became what may be the first in the world to define mandatory cyber-defence steps for financial institutions. "If I ranked the existential threats, cyber would come right behind nuclear weapons," says Carmi Gillon, chairman of **Cytegic**, a company that has developed a digital dashboard and tools to help keep companies protected.

Israel and the US face some of the most serious cyber assailants in the world, says Daniel Garrie, executive managing partner of cyber-consulting firm Law & Forensics in New York. That forces them to be "light years ahead" in prevention. While attempted hack attacks on Israel reached 2 million a day during last year's fighting in Gaza, the country has yet to report destructive events such as the theft of data from about 22 million people at the US Office of Personnel Management.

The threat is growing. Anonymous, a loosely connected global hacker collective, called in April for a hacking onslaught on the country. Israel was the second-most-hit in the world after the US that month, according to monitoring website Hackmageddon. The attacks did little more than deface websites. Anonymous claimed Facebook credentials and phone numbers of hundreds of Israelis were posted online.

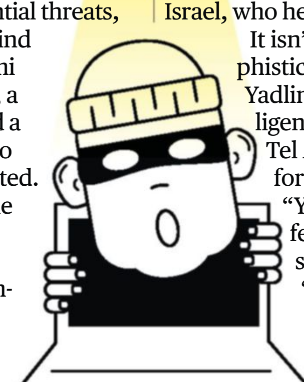
"If I ranked the existential threats, cyber would come right behind nuclear weapons." — Carmi Gillon, chairman of Cytegic

In March, **Check Point Software Technologies**, a cybersecurity company, detected malware that it suspected came from Lebanon. The alleged targets were defence contractors as well as telecommunications and media companies in 10 countries, including Israel. No further details were given.

Only two cables link Israel's Internet network to the world, giving its companies an advantage on the digital battlefield, says Yaron Blachman, director of cyber and technology consulting at PricewaterhouseCoopers Israel. "They can just turn to their Internet service provider and disconnect," he says.

Israel started building up its defences more than a decade ago. In 2002, the government created the National Information Security Authority to protect critical infrastructure. In 2012 it established the National Cyber Bureau, an agency within the office of Prime Minister Benjamin Netanyahu that coordinates and advises on policy. The authority established this year will be responsible for protecting civilian entities such as banks, says Yitzhak Ben-Israel, who helped found it.

It isn't enough just to have sophisticated defences, says Amos Yadlin, a former military intelligence chief who now heads Tel Aviv University's Institute for National Security Studies. "You can't be a good defender unless you understand the offence," he says. "Therefore, defensive efforts must overlap to ▶



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Briefs

By Rahul Odedra

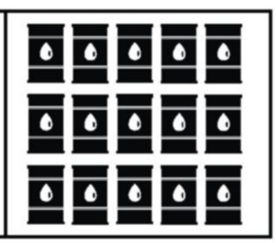
Emirates Goes The Distance

● ● Emirates is set to wrest the title of world's longest airline route from Qantas Airways with a service between Dubai and Panama City, commencing in February. The flight will traverse 13,821 kilometres, according to the Great Circle Mapper website, outstripping Qantas's Sydney-Dallas route by 17 kilometres. The Boeing 777-200LR service will take 17 hours and 35 minutes. ● ● The Dubai Gold & Commodities Exchange will focus on new products that are relevant to the Middle East and try to get regional banks and institutions more involved under new CEO Gaurang Desai. He says the DGCX should be ready to start trading a spot gold contract by the end of this year. ● ● Abu Dhabi's oil marketers plan to host a reception for buyers during an energy trading conference this month in Singapore, on 9 September, a push by the emirate to raise market share amid a global supply glut. ● ● Jacques Michel has been named as the new head of corporate and institutional banking for the Middle East and Africa at BNP Paribas, taking over from Jean-Christophe Durand, who has left the bank. Michel has been country head for India since December 2009 and was previously deputy CEO for Fortis Asia-Pacific in Hong Kong. ● ● Singapore Airlines' premium Indian carrier Vistara has resorted to free tickets as intense competition and low fares add to the task of wooing passengers. Vistara, jointly owned by Singapore Airlines and Tata Sons, filled about 59 per cent of seats on average in the first half of 2015, government data show, the least of eight major passenger carriers operating in the country. On 12 August it offered a free premium economy class ticket with every business class ticket purchased.

$203m

Potential expenditure by Yum! Brands and franchise partners to add 400 more KFC restaurants in Turkey over the next five years

Oman, the biggest oil producer in the Middle East outside OPEC, said its crude and condensate production exceeded 1 million barrels a day for the first time in July. The Oil and Gas Ministry said production rose 0.5 per cent in June.



CEO Wisdom

"I don't think any company adopting the approach portrayed could survive, much less thrive, in today's highly competitive tech hiring market."

Amazon.com CEO **Jeff Bezos** responding to a *New York Times* article criticising his company's pressurised culture

some degree with offensive efforts, including those of intelligence collection."

For instance, Iran says Israel tried to sabotage its nuclear programme with the Stuxnet virus. It also attributed the Flame virus, which wreaked havoc on Iranian computer systems in the energy sector, to "illegitimate regimes." Israeli officials have declined to confirm or deny the country's involvement.

Learning to fend off attacks can be profitable. Israel Electric formed a unit called CyberGym with security consulting firm **CyberControl** to offer companies a simulated control centre to practice protecting their networks. And the new Israeli focus is leading to acquisitions and investments. **Elbit Systems**, Israel's biggest publicly traded defence company, in May bought a cybersecurity division from **Nice Systems** for $158 million. Two months before that, **Alibaba Group Holding** invested in Jerusalem Venture Partners to work with Israeli cybersecurity startups and protect its own operations.

Cytegic chief executive officer Shay Zandani, who established the information-security department in the Israeli Air Force in the 1990s, says many Israeli corporations aren't protected against the kind of threats they face.

In 2014, one in 10 cyber breaches was in the banking industry, according FireEye report. Attacks and attackers targeting the Israeli financial sector have increased and become more sophisticated, according to a May report by Cytegic and cyber consulting firm Konfidas. Lenders have largely been unsuccessful in reining them in, it said. The industry targeted most by hack attacks: information technology.

The Bank of Israel says it appears to be the first central bank in the world to define mandatory steps for cyber defence. Its regulations, issued in March, put pressure on the board of directors and senior management to insure lenders are safe. "Israel is a geopolitical target and attacking the banking sector can damage our economy," says Rachel Jacoby, head of the OpRisks management unit for technology and cyber at the central bank.
—*Gwen Ackerman*

The bottom line Being a constant target of attacks has seen Israel's economy become one of the most advanced in cybersecurity.

Bloomberg Businessweek Middle East companies-and-industries

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Girl

▶ **Women are taking a greater role in Saudi Arabian politics and business**

▶ **"In 15 years, we're going to see more of this shift"**

At a workshop on an ordinary summer's day in Riyadh, prospective candidates in local elections are limbering up: one wants to help kids, one improve living conditions in the Saudi capital, another become a political role model. Even in a kingdom with few occasions for voting, the scene would be unremarkable save for one aspect that would have made it unthinkable just five years ago.

In the room are 21 female candidates, all dressed in the black cloaks that are compulsory under the strict Wahhabi version of Sunni Islam, learning how to woo voters and manage campaigns and budgets in the first election that's open to women in the kingdom. "My message during my campaign is simple: change," says Haifa Al-Hababi, 36, who is preparing to stand and has four months to hone her pitch before the December election. "Change the system. Change is life. The government has given us this tool and I intend to use it."

While giving women more of a voice is a watershed alone, it also underlines the growing importance of having them play a bigger role in society and, crucially, the economy. With living and housing costs rising and the oil price back below $50, there's just less wealth to spread around given the tripling of the population since the 1970s oil boom.

The bottom line is a woman's place can no longer be at home if the menfolk want to maintain the living standards they're accustomed to. "It's getting to the point where they need two incomes if they want to live in a certain way," says Stefanie Hausheer Ali, associate director at Atlantic Council's Rafik Hariri Center for the Middle East in Washington. "In 15 years, we're going to see more of this shift."

King Abdullah, who ruled from 2005 until his death in January, slowly expanded women's rights in the face of resistance from some parts of the religious establishment. He permitted women to stay at hotels without a letter from a male guardian, making it easier for women to travel on business. He appointed the first female deputy minister, opened the kingdom's first coeducational university and phased out male employees at lingerie and make-up stores.

He also appointed women to the country's 150-member advisory body and allowed female athletes to compete at the Olympics in London in 2012 for the first time, their covered bodies contrasting with competitors. His successor, King Salman, hasn't rolled back the changes, focusing his new royal court on asserting Saudi Arabia's foreign policy.

As a result, female workers are entering the labour force in record numbers, a surge of 48 per cent since 2010, last year's official labour report showed. "It's job creation within the national population and there's a great multiplier effect in the economy," says Monica Malik, chief economist at Abu Dhabi Commercial Bank. "To have around 50 per cent of your possible workforce not being utilised is a burden."

Though more of them are working,

Misery continues, but hope remains, in Gaza 24

Gender Imbalance

More women are entering the workforce in Saudi Arabia, but men still make up the vast majority

16%
Saudi workforce made up of women

60%
Saudi unemployed who are women

48%
Increase in women entering Saudi workforce since 2010

DATA: OFFICIAL 2014 LABOUR REPORT

women still only make up 16 per cent of Saudis with jobs and account for 60 per cent of the unemployed, according to the labour report. Even as their status has improved from a decade ago, their lives remain restricted. They cannot drive, and they need a guardian's permission to travel or have some surgeries.

Foziah Abu Khalid, a political sociology professor who helped organise the training, says she hoped women's participation in the vote will mean the voice of all Saudi citizens, not just half of the population, will be heard. "Entering municipal councils is not our ultimate goal," says Abu Khalid. "We are aspiring that it would be the first step toward a political partnership between society and the state."

Al-Hababi, one of the candidates at the workshop organised by activists, a charity and an NGO in Riyadh, says the constraints have made women less confident. She says after returning to the country from the UK, where she lived and studied architecture for 10 years, women would respond with "What's the point?" when she asked why they weren't living the way they wanted.

Another woman running for local office, Areej Almuallem, 32, says her candidacy will allow her to show that women are trying to make a difference. And that's "enough for me to feel proud and honoured," she says. —*Deema Almashabi and Donna Abu-Nasr with assistance from Vivian Nereim*

The bottom line Saudi Arabia is allowing women a greater role in public life as it aims to make the most of its human capital.

Elections

Another Vote in Turkey, the Same Erdogan

▶ **The president's AK Party sharpens its criticism of the pro-Kurdish HDP**

▶ **"None of Turkey's problems can be solved with guns"**

As Turkey heads toward its second general election in six months, President Recep Tayyip Erdogan's campaign against the surprise victor of the first ballot may backfire—again. The pro-Kurdish HDP won 13 per cent of votes in June, helping to deny a wounded ruling party the supermajority it sought to transform Erdogan's office into the nation's power centre. Since then, Turkey's leaders have redoubled their efforts to tie the HDP to Kurdish PKK rebels, designated terrorists by Turkey and the US. They sent the air force to bomb the guerrilla's bases, reigniting a three-decade conflict.

The rising tide of nationalist rhetoric and the spreading conflict in Turkey's southeast haven't dented support for the HDP, according to two opinion polls published in mid-August which put the party on 12.8 per cent and 14.1 per cent. Both are above the 10 per cent threshold it must cross to seat lawmakers in parliament. "Escalating violence may chip away at support for the HDP in the west of the country," says Naci Sapan, who analyses Kurdish politics at the Tigris Communal Research Centre in the southeastern city of Diyarbakir. But the party will benefit from a widespread feeling in the Kurdish southeast "that the president rekindled violence" for electoral benefit, he says.

HDP leader Selahattin Demirtas, who built his reputation investigating human-rights abuses during the Kurdish conflict, led his party to 80 seats in the 550-member parliament in June, vowing a new inclusive politics and the defeat of Erdogan's attempts to install a "dictatorship." His pitch was aimed at Kurds who had previously voted for the governing AK Party as well as Turkish secularists living outside the southeast. The HDP gains left Turkey with a hung parliament and talks over forging a coalition have foundered. Erdogan's desire to usurp parliament's powers and rule from his 1,150-room palace in Ankara was a major factor.

During a speech on 14 August, Erdogan triggered outrage with comments suggesting he was already at the wheel. The presidency wields de facto, rather than symbolic, power "whether one accepts it or not," Erdogan says. Kemal Kilicdaroglu, leader of the main opposition Republican People's Party, accused the president of seeking a legal basis for a "coup." Devlet Bahceli, chief of the leading nationalist group, the MHP, says he had "no tolerance for a locally produced Hitler, Stalin or Qaddafi."

Acting Prime Minister Ahmet Davutoglu has repeatedly denied accusations that Erdogan secretly pushed for a repeat election to accomplish his political aspirations. He says the AKP, which he now heads, is best placed to prosper from a fresh ballot.

Erdogan, who as prime minister embarked on peace talks with the PKK, now says the group poses an equal threat to Turkey's southeast as self-proclaimed Islamic State militants across the border in Iraq and Syria, whom Turkey is also targeting.

Demirtas and other HDP politicians don't deny connections to the PKK—Demirtas's older brother is a fighter for the group and the PKK's jailed founder Abdullah Ocalan is seen as the ideological father of the party. What they reject is accusations that the HDP is an advocate of armed conflict. "None of Turkey's problems can be solved with guns," Demirtas said in a statement ▶

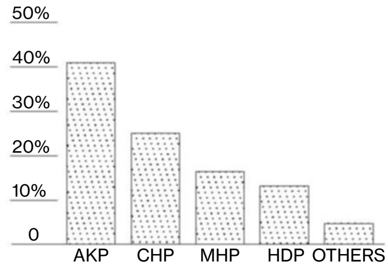
President Erdogan wears a dove at an event in Rize on 14 August

ILLUSTRATION BY LA CHINA M; AFP

The First Time Round

Turkey's June election delivered no overall majority, from which no coalition government could be formed

Party	Votes	MPs
AKP	18,867,411	258
CHP	11,518,139	132
MHP	7,520,006	80
HDP	6,058,489	80
Others	2,199,198	0
Total	46,163,243	550



published on 19 August. "It doesn't matter whether it's security forces, PKK or civilians—the deaths have to stop immediately."

Erdogan has promised that won't happen. "I'll say it clearly—these operations will continue," he said in a speech to supporters in his hometown of Rize on 12 August. "As long as the terrorist organisation doesn't drop its weapons, as long as its militants don't leave the country, and as long as the political party acting under its guidance doesn't cross over to real democracy, all bodies of the state will do what's necessary to protect the nation and its people." Speaking in Ankara a day earlier, Erdogan described the HDP as an "extension of the terror group."

Attempts to define Demirtas's party as controlled by the Kurdish militants are unlikely to swing the electorate substantially in Erdogan's favour, analysts say. "Support for the AK Party among Kurds will further decline if there's an election," Ozer Sencar, head of MetroPOLL Strategic and Social Research, says. In the past, "Kurds were voting either for the AK Party or the HDP, now they just have the HDP to vote for."

Turkey's political impasse and spiralling violence—intense clashes have forced authorities to declare temporary curfews in at least two towns in the southeast—is eroding already shaky confidence in the economy. The lira has posted the third-biggest drop among major currencies this year, threatening to unwind the recent slowdown in inflation and narrowing of the current-account deficit. Turkey's central bank on 18 August left all its main interest rates unchanged, citing recent volatility in the currency and rising food prices.

> **"As long as the terrorist organisation doesn't drop its weapons, as long as its militants don't leave the country, and as long as the political party acting under its guidance doesn't cross over to real democracy, all bodies of the state will do what's necessary to protect the nation and its people."**
> **—Turkish President Recep Tayyip Erdogan in a speech to supporters in his hometown of Rize on 12 August**

Erdogan has called fresh elections for 1 November. A vote in October would have been "welcome by the markets as the period of uncertainty will be shorter," Teneo Intelligence Managing Director Wolfango Piccoli says. "Yet, the key issue for investors relates to the prospects of a return to a stable single-party government and not so much the timing of elections."

That's something Erdogan's increasingly divisive strategy can't deliver, Naz Masraff, director for Europe at Eurasia Group in London, says. "Erdogan is likely to continue to target the HDP during the campaign period to discredit them with the hope of keeping them below the 10-per cent threshold," she says. Still, "a coalition government cannot be avoided next time around." —*Selcan Hacaoglu with assistance from Onur Ant*

The bottom line The AK Party's attempts to damage the pro-Kurdish HDP aren't working as new elections on 1 November are called.

Palestinian Conflict

No Salvation in Sight for Forgotten Gaza

▶ **Other conflicts in the region have taken attention from the crisis**

▶ **"We're talking about a region that simply has bigger problems now"**

They rolled by on flatbed trucks, 3.6-metre missiles bearing the names of Hamas commanders killed in an Israeli air strike: the Shamalah, the Attar. The scene was a parade through central Gaza City in July on the one-year anniversary of the most recent of three Hamas-Israel wars. The locally-made missiles, with a range exceeding the 72 kilometres to Tel Aviv, were hailed by a Hamas official masked in a red scarf as the crowd cheered.

It is also 10 years since Israel withdrew its settlers and soldiers from this Palestinian coastal strip, a moment to take stock of how much has changed since Israel left the area in the hands of the Palestinian Authority and optimism briefly blossomed. Then investors spun visions of a Mediterranean Singapore. Marriott International considered plans for a beachfront resort, and the European Union built high-rise towers. Even Israel played along, putting up a huge modern border terminal for the expected traffic.

Today there is little traffic and less optimism. The Palestinian Authority was driven out by its rival, Hamas, an Islamist group that rejects Israel's existence. Today Gaza is squeezed by Hamas on the one hand and its Israeli and Egyptian neighbours on the other, bereft of politics or an economy.

The Palestinians face international apathy as the rise of self-proclaimed Islamic State and other crises supplant theirs at the heart of the Middle East conflicts. No longer able to smuggle Iranian missiles through Egypt—both countries have removed their support—Hamas makes its own. "We're talking about a region that simply has bigger problems now," says Mkhaimar Abusada, who teaches political science at Gaza's Al-Azhar University.

For Palestinians who thought life would be better after the Israelis left, "the disengagement has backfired badly." Motasem Abu Asser lives the difficulty every day. He rouses his four children in the one room left standing from their home pulverised by Israeli tanks a year ago. "There are thousands of families like us," says 31-year-old Abu-Asser, an unemployed vegetable hawker, shuffling through the rubble.

Gaza's housing minister presided over a ceremony on 19 July marking the first time since last year's war that a $5.4 billion fund pledged by international donors could be used to start rebuilding 18,000 homes demolished in the fighting. Foreign governments had held back the aid, seeking guarantees Hamas would not divert the money to rebuild tunnels and other structures used to attack Israel.

Gaza's misery has always been fraught with the political disputes it encapsu- ▶

ILLUSTRATION BY NADIA M

◀ lates. For those seeking to indict Israel, Gaza is portrayed as one of the worst spots on earth. It is not. Seven decades of United Nations-provided food, medical care and education have made Gaza more literate and healthier than much of the developing world.

Meanwhile, Israeli officials and their defenders repeat the phrase, "There is no humanitarian crisis in Gaza." But there is. After last year's war, 100,000 Gazans still do not have homes. And none of the 1.8 million inhabitants, most of them refugees from what is today Israel, have stability.

The World Bank reported in May that Gaza's GDP shrank by 15 per cent in 2014 because Egypt closed off smuggler tunnels from Sinai and Israel invaded last summer. Real per capita income is 31 per cent lower than it was 20 years ago. Some 80 per cent of Gazans receive some refugee aid. Unemployment stands at 43 per cent.

Gaza resists simple description. Hamas sought to impose more Sharia law but pulled back amid opposition from human-rights groups and the half of the population aligned with Palestinian President Mahmoud Abbas' more secular Fatah party. Schools require teenage girls to wear long skirts and hijab head coverings but women who leave their heads bare generally suffer no consequences. This is not Afghanistan under the Taliban.

The territory retains a middle class of business owners, doctors and other professionals who dine on steak au poivre at the tony Roots Club restaurant and drive late-model cars. "I live a comfortable life but there's a lack of stability here," says Na'el al-Masri, a 32-year-old dentist.

Radical Salafist groups, some aligned with Islamic State and al-Qaeda, occasionally bomb music stores and Internet cafes and threaten the few tiny Christian institutions. That has led to a crackdown by Hamas security forces, placing them in the peculiar position of defenders against radical Islam. "Hamas is persecuting us and arresting us, but we are doing our best to avoid a war with them and focus on fighting the Jews," said Abu Mohamed el-Ansari, 27, wearing the traditional grey robe and long beard of the Salafists.

Israel has eased some restrictions, admitting some building materials previously withheld because Hamas might take them to rebuild tunnels it used to attack Israel. Israel has increased the number of supply trucks let into Gaza to 800 a day from 400 and authorised the export of produce and fish to the Fatah-dominated West Bank. It also raised the number of entry permits to Israel for Gaza business people to 5,000 from 3,000. "We will try to do our best to find creative solutions but not more than that," Colonel Grisha Yakubovich of the Defense Ministry says.

Gisha, an Israeli group that seeks freedom of movement for the Palestinians, says such solutions add up to little. "The perception is that more political capital can be gained by imposing hardships on the people in Gaza rather than easing the conditions there," says Eitan Diamond, Gisha's executive director.

When Israel pulled out of Gaza in 2005 it left its 21 settlements as piles of rubble. Hamas has turned those areas into a university, amusement park, orange groves and militant training bases. Missiles are made and tunnels rebuilt as Palestinians here, increasingly separate from their brethren in the West Bank, say another battle with Israel is inevitable. Many in Israel, persuaded there is no partner for a peaceful two-state solution, agree. The conflict cannot end, they say, so it must be managed.

Amid the war-torn landscape, Palestinians in Gaza haven't given up, however. They troll the Internet, watch their satellite TV screens and look warily at the chaos and suffering in Syria, Iraq and Egypt. Gaza's tiny size and isolation have strengthened the clans of extended families who take care of each other, according to Omer Shaban, director of the Pal-Think for Strategic Studies research institute. Predictions of economic doom, he says, are exaggerated. "There are social ties in Gaza that are hard to find in other areas of the world," Shaban says. "People are poor and conditions are hard, but people stick together and will manage to survive." —*Jonathan Ferziger and Saud Abu Ramadan, with assistance from Fadwa Hodali in Ramallah.*

The bottom line While eyes are fixed on conflicts elsewhere in the region, Gaza suffers on from last year's Israeli bombardment.

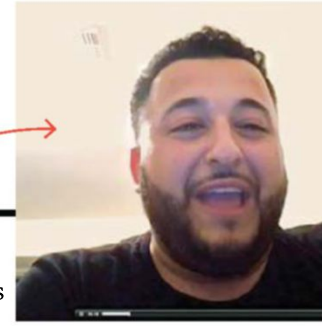
Two pictures of destroyed buildings in front of a mosque in the northern Gaza Strip town of Beit Hanun—the top taken on 3 August, 2014 and the bottom on 3 July, 2015—illustrate the lack of reconstruction progress made in the last year.

ILLUSTRATION BY NADIA M; AFP (2)

▶ **Live-video service YouNow is making stars and swearing off ads**

▶ **"Advertising does not help the creators"**

FROM LEFT: PHOTOGRAPH BY CAROLINE TOMPKINS FOR BLOOMBERG BUSINESSWEEK (1); YOUNOW (3)



Tayser Abuhamdeh recently lost his job at a bodega in the Williamsburg neighbourhood of Brooklyn, New York. His boss couldn't tolerate the late-night clerk's habit of using his phone to broadcast running video commentary for anyone who cared to tune in during his shifts. As the tension between Abuhamdeh and his employer grew, so did the audience for the bodega broadcasts on his account, Mr.Cashier. When he finally got the call that he was fired, Abuhamdeh was in Chicago taking selfies with fans.

Mr.Cashier isn't trying to find a new job, though he's still broadcasting to his 139,000 followers on the live-video site **YouNow**. Abuhamdeh says he makes three times what he did at the bodega. A 45-minute broadcast can net him $1,000. "Every day I think I'm going to wake up tomorrow and it's going to be gone," he says.

At a time when **YouTube** personalities are being cast in feature films and **Vine** celebrities are shooting TV commercials for Hewlett-Packard, social media stars are attractive to advertisers eager to captivate young eyeballs. YouNow, which the analytics firm App Annie ranks seventh in the US among iOS social networking apps by gross revenue, is a favourite. The company says it logs 100 million user sessions each month, with visitors spending an average of 50 minutes a day, whether broadcasting their own videos or viewing those of others. Unlike YouTube, Vine, and most other amateur-video services, though, YouNow doesn't allow advertising. Instead, it relies on viewers to tip the people who make videos they like, taking a 30 per cent cut for itself.

"We take a creator-centric approach, and advertising does not help the creators," says Chief Executive Officer Adi Sideman. "Patronage supports a direct relationship between the creator and the audience." In June, YouNow says, people spent from $1.5 million to $2 million on tips. The company isn't profitable yet.

For people trying to make a living from their online popularity, four-year-old YouNow is a tantalising experiment. If it can create a viable alternative to advertising with its

CarterReynolds has the most YouNow fans, at 727,000

digital tip jar—an Internet fixture since the early days of blogging—so might other buzzy live-streaming services, such as **Periscope** and **Meerkat**, which haven't publicly discussed their plans for making money.

Abuhamdeh's take on his Mr.Cashier account pretty well sums up YouNow's editorial mission: "I really had no goal, to be honest," he says. "I really just wanted people to see what I was doing every day, just taking them with me." In a recent broadcast, he kept his phone camera trained on his face while he boarded a plane. Viewers watched him rolling his eyes at a guy yammering on his own phone in the adjacent seat. The guy didn't seem to notice Abuhamdeh's phone conversation—thanking tippers several times a minute.

Other YouNow streams during a typical week: a boy with a Southern accent angrily telling commenters that he didn't "sound gay," then arguing with his mother when she walked into his room; two girls dancing and lip-syncing; an art student drawing silently while listening to her headphones. YouNow's 50 staffers strictly control which accounts can receive tips, in an effort to prevent the site from devolving into another genre of online video that thrives on gratuities: pornography. About 850 accounts are tippable, the company says.

People on YouNow agree to do things in exchange for followers or tips—using the site's chat window, someone might request, say, a particular song—but the culture of the site shuns the exhibitionism-for-hire found on adult sites. A common YouNow insult is the word "thirsty," used to describe people who are desperate for tips. Abuhamdeh says he won't explicitly encourage people to pay him. "That's one thing I never want to do in my life—ask for anything," he says. "If it ever came down to it, and I needed money, I'd just go and get a job."

Taking pains to avoid looking like you want money can make it harder to make money. Seth Shafer, an analyst at SNL Kagan, says YouNow's reliance on a gratuity model will limit its scale, because most people are used to getting everything online for free. There are alternatives for talented video makers, he says, ad-supported sites where they have "a clearer path to getting paid."

Andrew Graham, a senior talent manager at the YouTube network Big Frame, says he regularly scouts YouNow for up-and-coming talent. Broadcasters looking for a truly huge audience eventually have to focus on YouTube. "You spend your time, ultimately, where you make the most amount of revenue," he says. YouNow may be paying out a few million a month, but YouTube is minting millionaires.

YouNow's Sideman says there's plenty of room for the site to grow. It's launching a version of its mobile app that will make it easier for people to find broadcasts that focus on specific topics. The site also recently signed up its first major media partner, the *Huffington Post*, which is doing a broadcast one evening a week in which an editor interviews social media stars. No money changed hands, and the *HuffPo* account doesn't accept tips. Sideman doesn't see Periscope or Meerkat, which he says are focused on "drawing professional content and slightly older audiences," as competitors.

Most of YouNow's tippable performers also have YouTube channels and **Twitter** handles, but those interviewed for this story describe YouNow as their primary platform. Jared Tousley, a North Carolina 17-year-old who goes by flippinginja on YouNow, says it's hard to match the feeling of a live broadcast. "It's very personal," he says. "If someone says hi to me, I can say hi right away."

Tousley quickly became a YouNow celebrity a year ago after his first broadcast, in which he dragged his sister on camera and demanded that viewers give her compliments after a rough day. This didn't escape the attention of his father, Darrell, who now has more than 32,000 fans of his own on the site, who will watch him cook spaghetti while cracking bad jokes. He recently quit his job teaching sculpture at the University of North Carolina School of the Arts and says his income from the platform will likely soon replace his $73,000 teaching salary. "I'm not planning on going back to teaching," he says. —*Joshua Brustein*

CrankThatFrank's 14-hour broadcast is one of the longest on record

The bottom line YouNow is banking on the digital tip jar—not advertising—to make profits from live-stream performers.

Data

A Technology That Reveals Your Feelings

▶ **Software sizes up your eyes, nose, mouth—even your wrinkles**

▶ **Can you verify "whether someone was actually feeling joy or anger"?**

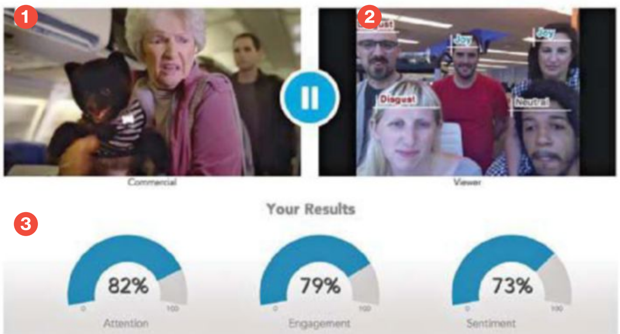
Memo to students: Think you can fool your teacher when you're not paying attention? Think again. In the not-too-distant future, a laptop flashing a graph tracking classroom attention in real time could give you away. By the end of 2015, as many as 1,000 schools in the US and Canada could be using a technology that monitors students, says Rich Cheston, chief solutions officer at **Stoneware**, a Lenovo unit that makes classroom management software. Stoneware will soon incorporate emotions analytics into one of its products to track attention in the classroom. A cousin of facial recognition, emotions analytics relies on video of facial expressions.

The teachers "can see it as they are teaching, so they can determine when to take corrective action," Cheston says. His product will come out in September, and then he will start marketing it to schools.

Over the past few years, big companies, including **Unilever** and **Coca-Cola**, have used emotions analytics to better understand customers' likes and dislikes and to tailor marketing and advertising campaigns. About a dozen companies ▶

Focus Group

"Watch an ad. See your emotions," Emotient's demo commands. We gave it a try.



1 The demo plays a Doritos commercial and records viewers' reactions.

2 When the ad is played back, it displays those reactions in a separate window.

3 The demo generates results based on three performance indicators.

are making and supporting such software, according to researcher Crone Consulting. The market leaders include **Emotient**, a startup in San Diego, and **Affectiva** in Waltham, Massachusetts. Unilever relies on Affectiva's emotions analysis to assess customer reactions to its ads. Emotient's software will be used in Stoneware's classroom product. And Emotient tested its software with the NBA's Golden State Warriors to study how spectators respond to activities such as a dance cam.

The market for emotion-analysing software could reach $10 billion worldwide in five years, up from more than $100 million in 2016 and less than $20 million this year, Crone Consulting says.

The software, which can be used in PCs, cars (to alert drivers when they get distracted), and smartphones, works with live or recorded video of facial expressions. How the different companies' products work varies. Affectiva's software homes in on points on a face, such as the corners of eyes or eyebrows. Algorithms also detect texture variations that occur when people laugh, frown, or smirk. Accessing its database of 3.2 million face videos, Affectiva says it can identify facial expressions and emotions with high accuracy. Its software processes video footage frame by frame to report the various emotional states of a user, from happiness to sadness, or from surprised to unfazed. It tests its emotion-recognition algorithms against images in its database.

"This is a passive way of not asking someone a question but simply observing their emotional response," says Nicholas Langevold, Affectiva's chief executive officer. Affectiva says its analysis has a 90 per cent-plus accuracy rate for some emotions.

Startup **Beyond Verbal**, founded three years ago in Tel Aviv, has a database of 1.5 million voices. The company analyses vocal intonations to identify more than 300 mood variants in more than 40 languages with 80 per cent accuracy.

Susan Etlinger, a data intelligence analyst at brand consultant Altimeter Group, says the software needs to be proven. "How can you verify whether someone was actually feeling joy or anger at the particular moment?" she asks. There also are ethical considerations, because those being studied may not know it, she says.

The field of facial-emotions analytics dates to the 1970s and the work of American psychologist Paul Ekman. "I thought it was going to be used in research," says Ekman, who along with several colleagues developed a way to measure facial movements. Emotient has adapted his system. Ekman says he worries that some of the technology's uses could infringe on privacy rights. After he threatened to resign from Emotient's board, where he's an adviser, Ekman said the company is now addressing his concerns.

$10b

Potential size of emotion-analysing market in five years

Microsoft has developed prototype consumer apps that track emotions via a skin sensor on an activity band and a heart-rate monitor. They alert users when stress levels are high and offer tips for coping with the stress. Some employees in the research division developing the apps share their emotions through desk crystals, which change colour when users are sad, happy, stressed, or bored. "Your colleague could help you out, make you feel better," says Mary Czerwinski, a research manager at Microsoft. "But as soon as one of their bosses came in, they covered it up." —*Olga Kharif*

The bottom line The market for software that analyses emotions could reach $10 billion worldwide by 2020.

Mobile

Apps Are Running Ads You Can't See

▶ **Thousands of programs cheat advertisers and slow phones**

▶ **"Freezes, restarts, and crashes became more frequent"**

Most mobile apps that sell advertising charge based on the number of views the ads get, but not all app makers count honestly. Thousands of apps inflate their viewer numbers by running multiple ads at once on a given phone, most concealed in a background layer users never see, according to a study published on 23 July by Forensiq, a company that tracks fraud in online advertising. For phone users, that can mean their apps crash more frequently or their devices constantly run slower. Advertisers, meanwhile, are paying for views they don't really get.

Following its 10-day study, Forensiq concluded that more than 12 million phones around the world have been used to rack up phony ad views. About 1 per cent of those it monitored in the US, and 2 per cent to 3 per cent in Europe and Asia, ran at least one app with hidden ads. Forensiq identified 5,000-plus apps that run unseen ads on both iOS and Android phones. Advertisers pay more than $850 million a year for concealed ads, the report says, and some of the apps can burn through 2 gigabytes of data a day on a device.

That intense data-gulping helped expose the scams. Forensiq noticed that some apps were calling up so many ads that people couldn't possibly be looking at them—running five background ads for each visible one or scrolling through ads while the app was closed. Many of the culprits are simple games or utilities with real users, says David Sendroff, Forensiq's founder and chief executive officer. "It's not Angry Birds or Candy ▶

COURTESY EMOTIENT; PHOTOGRAPHS BY MOLLY MATALON AND DAMIEN MALONEY FOR BLOOMBERG BUSINESSWEEK (5)

Hardware A Preschool for Robots

Researchers at the University of California at Berkeley are teaching robots to be smarter with the aid of water bottles, wooden toys, and child psychology. The scientists are using software to train a PR2 robot, whose head looks like a toaster crossed with a George Foreman Grill, to manipulate simple items and solve problems the way kids do: by exploring, watching, and imitating. Show it the result you want—an open bottle, a tower of blocks—and it will work its way there through trial and error, without having to rely on hundreds of hand-coded if-then commands. Researcher Chelsea Finn says the next step is to train the PR2 to manipulate a wider range of household items. ——*Jack Clark*

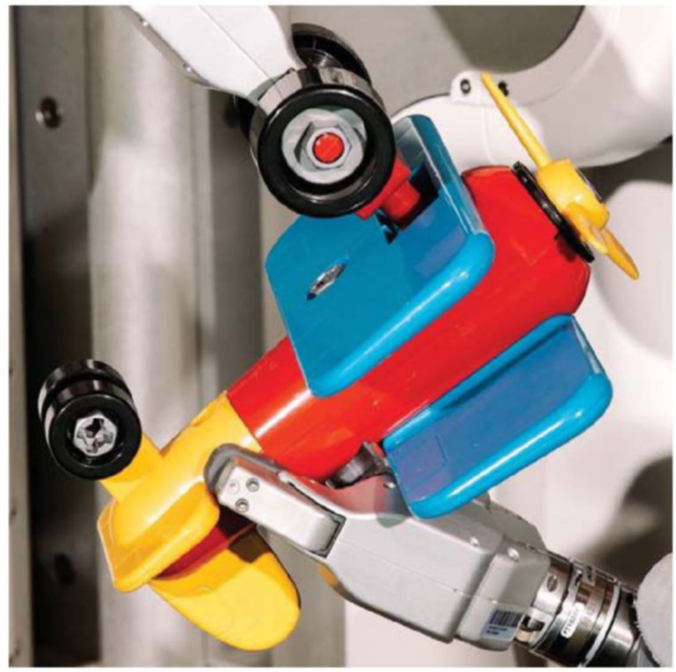
The essentials

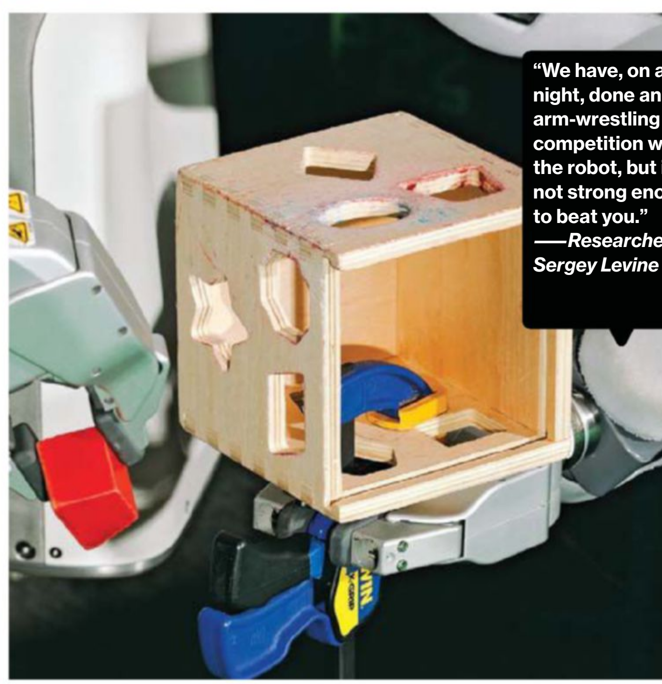
Sight
A Microsoft Kinect sensor lets PR2 watch an object move and time when to grab it. Teaching the robot to use its data-rich eyes can take several hours.

Learning
Once trained to sort a set of blocks left in one position, PR2 can still sort them even when the blocks are moved into positions it hasn't seen before, unlike conventional robots.

Touch
Data gathered from touching things are easier for PR2 to process. Even without coded instructions, the robot will sort shaped blocks based on feel in a matter of minutes.

Hiccups
The robot had trouble correcting for a slight mis-angling of a water bottle while removing its cap. There's an emergency stop button in case of robot uprising.





"We have, on a late night, done an arm-wrestling competition with the robot, but it's not strong enough to beat you."
——*Researcher Sergey Levine*

Lesson plan ❶ Simple assembly ❷ Hand-eye coordination ❸ Functional tasks ❹ Problem-solving

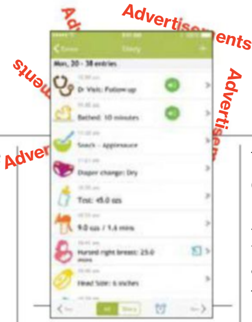
◀ Crush, but these are apps that people play and enjoy, and [that] some real effort went into developing," he says.

Among the apps whose names Sendroff shared with *Bloomberg Businessweek* was a breast-feeding app made by *American Baby* magazine and developer **Sevenlogics**. The invisible ads include spots for Olive Garden, Amazon.com, and IBM, he says. One review on the iOS app store, posted by someone with the handle Annoyed and Frustrated Mommy, called the American Baby app a "lifesaver" but said that "after a few months the freezes, restarts, and crashes became more frequent and persistent. I also noticed the pop-up ads became more tricky to avoid accidentally clicking on, and now I swear my phone takes me straight to the App Store when I haven't even touched the screen after the pop-up appears. Unfortunately it's too late for me to switch apps, because all my info is wrapped up in this one."

It's not always clear who put the deceptive code in a given app. Alex Cheng, the president of Sevenlogics, says the company hasn't added any code that would run invisible ads, though it works with ad-tech companies that regularly update their code. "We are monitoring very closely with our ad vendors to prevent any intrusive advertisements," he says. **Meredith**, the publisher of *American Baby*, declined to comment.

Complaints about crashing and slowness are also common on reviews for a series of silly Android games with names such as Waxing Eyebrows, Celebrity Baby, and Vampire Doctor, all published by developer **Girls Games Only**. In a video published with its study, Forensiq shows the games running code that produces a steady stream of unseen ads for companies including Microsoft, Coca-Cola, and Mercedes-Benz. The performance issues are almost certainly caused by the background ads, Forensiq says. Google's app store suspended downloads of the Girls Games Only apps the day the study came out. The app maker didn't respond to a request for comment, nor did the advertisers.

Surreptitiously running ads is a violation of the rules governing all apps available in **Apple** and **Google**'s app stores, but such trickery can be tough to detect. The best way, Sendroff says, would be to monitor each app's bandwidth use over time, and Google and Apple may not be able to do that. Apple declined to comment, and Google didn't respond to a request for comment.



The Baby Nursing/ Breastfeeding app was among the 5,000 Forensiq identified

The main limit on hidden-ad fraud may be that it doesn't pay as well as other online scams, says Michael Bentley, head of research and response at mobile security firm Lookout. Average ad rates for the apps in the Forensiq report hovered around \$1 per thousand views. That said, hiding ads carries relatively low risk of punishment. Online ad buys are often traded through several layers of automated middlemen before an advertiser's spots appear in front of consumers, and it can be hard to keep track of where the ads end up and which agency has placed them. If the victims of a crime are unaware it's happening, there's probably less of a chance of anyone getting caught. —*Joshua Brustein*

The bottom line Forensiq estimates that invisible-ad fraud within apps slows phones and costs advertisers about \$850 million a year.

Big Data

Searching for Drug Side Effects

▶ Google queries might help the FDA spot medical safety issues

▶ "The right technology to connect the dots" can detect problems early

For years, the US Food and Drug Administration has relied on patients, doctors, and pharmaceutical companies to report drug side effects. The agency may soon try to glean that information from **Google** searches, too.

According to agency records, FDA officials held a conference call on 9 June with senior Google researcher Evgeniy Gabrilovich, who co-wrote a 2013 paper about using search query data to spot adverse drug reactions. FDA spokesman Christopher Kelly described the meeting as a chance "for the agency to begin a discussion on how we might collaborate with Google on identifying adverse event data." The company declined to comment.

Gabrilovich, who specialises in data mining, began scanning searches for drug reactions while at **Yahoo!** His paper, published in the *Journal of Medical Internet Research*, analysed 176 million Yahoo queries from 2010 and concluded that search data can help find reactions "that have so far eluded discovery by the existing mechanisms." Searches such as "cramps," "weight gain," and "tired" proved likely to reveal side effects that didn't show up in early testing because they "appear much later after the beginning of treatment." For example, search logs showed that the antidepressant Effexor was associated with sleepiness 6 to 10 weeks after patients first searched the name of the drug, according to the paper.

Before the FDA approves drugs, the only people who get them are carefully selected patients enrolled in clinical trials, generally a few thousand users at most. After medicines reach the market, they may go to hundreds of thousands or millions of people, some of whom will be taking additional pills or have preexisting conditions that the drug may disrupt. Evidence of negative side effects can lead regulators to change a drug's safety warnings or how it is prescribed. In extreme cases, a medicine can be pulled from the market, as happened with the painkiller Vioxx, which was approved in 1998 and withdrawn in 2004 after a link was established to heart attacks.

The government's process for tracking so-called adverse events—which involves patients, doctors, and pharmaceutical companies submitting forms—hasn't changed much since the 1990s. The FDA now gets more than 1 million reports of adverse reactions a year. Although the agency has tried to make the data easier to access, critics say the system is slow and probably misses many side effects. "They're coming to grips with the fact that there needs to be a better system for postmarket surveillance,"

FROM LEFT: COURTESY SEVENLOGICS; PHOTO ILLUSTRATION BY 731; PHOTOS: ALAMY (4), JEN MARTIN/E-NABLE (4)

says Brian Overstreet, president of **AdverseEvents**, a California company that analyses the FDA's data to help health plans understand the costs of drug side effects. (Bloomberg LP, the parent company of *Bloomberg Businessweek*, licenses data from AdverseEvents.)

The medical industry has been trying for years to sift through the Internet to dredge up meaningful signs of drug reactions. "If you have the right technology to connect the dots, then you can see problems very, very early on," says Ido Hadari, chief executive officer of **Treato**, which scans online patient forums and sells its reports to pharma companies. In an analysis of postings on the asthma drug Singulair, Treato found links to depression, anxiety, and hallucinations that predated warnings from manufacturer **Merck** and the FDA.

Microsoft researchers have worked on search mining for years and have co-authored a paper with FDA staff, says Eric Horvitz, a scientist and managing director at the company's research arm. In 2013 he co-wrote a paper with Microsoft colleagues and Stanford researchers concluding that search data could have more quickly revealed a link to high blood sugar in the combination of the antidepressant Paxil and the cholesterol-lowering drug Pravastatin. People who searched for both drugs on Google, Yahoo, and Bing over a 12-month period in 2010–a year before the link was publicly reported–were also more likely to search for terms related to high blood sugar, such as diabetes and dry mouth, according to the paper, published in the *Journal of the American Medical Informatics Association*.

Although the FDA wouldn't comment on the agency's talks with companies other than Google, there are signs that the agency is focusing on more troves of messages online. Last year an FDA researcher co-authored a paper about monitoring drug safety on **Twitter**. In June the FDA announced a collaboration with PatientsLikeMe, an online patient network, to monitor health forums for warnings of drug hazards. "The way we are taking care of patient safety once it's out there–once products are out there in the real world–belongs in the '70s," Hadari says. "We can do much better."
—John Tozzi and Dina Bass

The bottom line The FDA and Google are starting to talk about ways to spot drug side effects faster by analysing search data.

Innovation

Child Prostheses

Form and function
E-Nable designs 3D-printed prostheses for children older than 3 and shares their blueprints so they can be made for as little as $30. This way, the prostheses can be easily replaced as the kids outgrow them.

Innovator Andreas Bastian
Age 25
Technical director of Los Gatos (California) nonprofit E-Nable Community Foundation and 3D-printing researcher at Autodesk

1.

Setup Made from $8 to $15 worth of nontoxic, waterproof 3D-printer plastic and five screws, the prosthetic hands connect to a child's active muscles via elastic straps.

Background Each year, 32,500 US kids undergo amputations, and the Centers for Disease Control and Prevention estimates that about 1,500 are born with "upper limb reductions."

Origin Bastian, formerly head of R&D at MakerBot, began developing E-Nable's hands in 2013.

Funding In May, Google donated $600,000 to support E-Nable's R&D and production.

Other options An Iron Man-branded prosthetic forearm and hand developed by Limbitless Solutions costs about $300 to build.

2.

Source E-Nable's open source 3D blueprints are available through Google Drive.

Next Steps

This year, E-Nable has made more than 270 hands and seen other companies use its specs to fill orders as large as 2,000, Bastian says. Next he's working on elbows and shoulders. "It has changed everything," says Robert Graboyes, senior research fellow in health-care economics at George Mason University. "Children were not a viable audience as recently as two or three years ago, because they would outgrow costlier prosthetics too quickly." —*Richard Morgan*

▶ **The falling level of unpaid debt is a rare positive at a difficult time**

▶ **“We will see improvement in the quality of non-performing loans”**

> **“There’s a serious slowdown in general purpose loans.”**
> ***—Muge Dagistan, an analyst at FinansInvest in Istanbul***

Amid escalating border tensions, failed coalition talks and slowing economic growth, Turkey has at least one positive piece of news: Unpaid debt is on the decline. The amount of non-performing loans relinquished by banks is set to drop by a third to about 4 billion liras ($1.4 billion) this year, according to **Turkasset Varlik Yonetim**, the biggest buyer of the distressed debt. After climbing to 3 per cent of total lending from 2.7 per cent last year, bad loans have probably peaked, says **FinansInvest**, the Turkish investment-banking unit of Greece’s largest lender.

While the shift reflects reduced borrowing as the economy cools, it also signals success in government efforts to rein in consumer credit after a near-doubling in the past three years stoked inflation and the current-account deficit. Banks that protested limits on credit cards and loans imposed last year should at least be able to relax their provisions for bad debt, after increases that weighed on earnings and banks’ bond prices. “This is not a bad thing,” Serhan Akca, the investment director for Turkasset, says. “We will see improvement in the quality of non-performing loans.”

Turkasset, formerly LBT Varlik Yonetim, has paid 808 million liras to buy 7.2 billion liras in non-performing loans from financial institutions since 2008. On 29 July, Chief Financial Officer Emre Odemis said it had so far collected 762 million liras from creditors.

The bank making the highest provisions for bad debt last quarter was **Turkiye Halk Bankasi**, at 838 million liras, a jump from 190 million liras in the same period last year, according to data compiled by Yapi Kredi Yatirim. State-run lenders like **Halkbank** are prohibited from selling their bad loans to distressed debt managers.

Turkiye Garanti Bankasi, the biggest listed lender by market value, increased its reserves for problem loans to 424 million liras from 376 million liras in the second quarter. Garanti’s bonds in euros maturing in


They told you so! Analyst warnings on Amlak come to pass 36

Bid/Ask: India comes away from UAE with big deal 38

2019 fell in the six months through July, lifting its yield above 3 per cent from 2.8 per cent.

Turkasset has financed its purchases of bad bank loans by selling its own debt, including 55 million liras of two-year floating-rate paper last month. The notes were priced to yield 450 basis points more than two-year government bonds, according to Alevtina Deniz, institutional sales manager at **Ziraat Yatirim Menkul Degerler**, which arranged the sale.

Growth in consumer lending slowed to 15 per cent this year through July from 17 per cent in the first half of 2014. It increased as much as 40 per cent during 2011, according to the Banking Regulation & Supervision Agency. The resulting decline in purchases of imports will help pare the shortfall in the current account, the broadest measure of trade in goods and services. The deficit will probably shrink to 4.9 per cent of gross domestic product this year from 5.8 per cent, according to the average of 21 analyst estimates on Bloomberg.

Turkish regulators capped the term for credit card repayments at nine months in February last year and banned payment by instalments for goods including jewellery and mobile phones. Lenders led by Huseyin Aydin, the head of the banking association, called for an easing of the rules in May, only to be rebuffed by Deputy Prime Minister Ali Babacan.

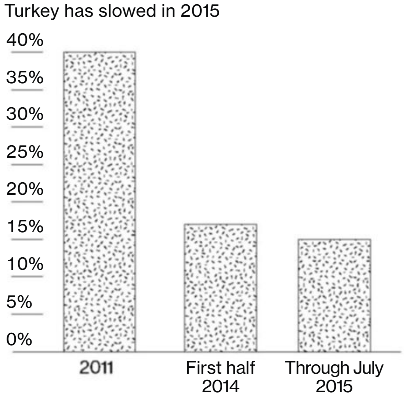
The drive for prudent borrowing is contributing to a slowing in economic growth to a projected 3 per cent this year, missing the government target of 4 per cent, according to the average estimate of 28 analysts surveyed by Bloomberg. "There's a serious slowdown in general purpose loans," Muge Dagistan, an analyst at FinansInvest in Istanbul, says. It's largely because the slowing economy is making banks reluctant to lend, she said.

—*Taylan Bilgic*

The bottom line As its economy slows, Turkey's non-performing loans relinquished by banks may drop by a third to about $1.4 billion this year.

Reining It In

The growth of consumer lending in Turkey has slowed in 2015



DATA: BANKING REGULATION & SUPERVISION AGENCY

Bonds

Iraqi Bonds Just Aren't That Attractive

- ▶ Conflict and low oil prices may drive down prices
- ▶ "I am sure Iraq would wish for better timing"

Iraq's effort to enlist bond investors in its fight against the self-proclaimed Islamic State and a collapse in the price of crude won't come cheap. The Gulf nation's first trial in the Eurobond market in almost a decade means it may have to pay "double-digit" interest to lure investors, says Morten Bugge, who helps manage about $2.5 billion of emerging-market debt at Kolding, Denmark-based **Global Evolution**.

> "Iraq is probably the most oil-dependent country in the world, so falling oil prices, really, really hurt this country."
> —*Jakob Christensen, a London-based director at Exotix*

Iraq announced a $6 billion bond programme on 18 August and may hold sales meetings with international investors as soon as this month, people familiar with the matter say. "It's an oil exporter with ISIS in their backyard which weighs negatively on the bond sale," Bugge, Global Evolution's chief investment officer, says.

Iraq has been struggling to contain the expansion of the Islamic State's foothold a year after the radical Sunni group took the nation's biggest northern city, Mosul, and captured Ramadi, the capital of Anbar province, three months ago. The government is borrowing to close a budget shortfall as the fight against terrorism and oil's decline by around 50 per cent in the past year sap government finances.

Compounding risks for investors is a selloff in commodity-exporting ▶

ILLUSTRATION BY NADIA M; AFP

Digits

−53%

Worst performer!

Frisco's losses follow a 20 per cent drop in 2014 and a 51 per cent decline the year before

Drop this year in the value of Mexican gold miner **Minera Frisco**, 78 per cent owned by Carlos Slim. That's the worst among 90 similar companies tracked by Bloomberg. Slim has lost $10.8 billion of his wealth in 2015—the largest decline in the world.

◀ nations following mid-August's yuan devaluation, while the Federal Reserve prepares to raise interest rates from near zero, Bugge says. Middle East and North African countries are issuing bonds this year at the slowest pace since 2011, according to data compiled by Bloomberg. "I am sure Iraq would wish for better timing," Bugge says.

The yield on Iraq's only international bond jumped to a new high for the year on 20 August, climbing 19 basis points to 8.73 per cent. The country had to seek $1.24 billion of emergency financing from the International Monetary Fund in July after oil prices slumped to their lowest in six years. Crude contributes about 40 per cent of economic output. "Iraq's rating is very good in the current circumstances," Majid Al-Souri, a board member of the Central Bank of Iraq said on 19 August. "It has huge fortunes of oil and gas and it can't go bankrupt," which will reassure investors, he said.

$6b

Size of bond programme announced by government

Fitch Ratings expects the country's fiscal deficit to top 10 per cent of gross domestic product for 2015 because of lower crude prices, higher military spending and costs associated with the civil unrest.

Islamic State's presence has put political risk in Iraq at the highest among any sovereigns it rates, Fitch said in August after it assigned the country's bonds a speculative grade of B-. The assessment is on par with Cyprus and Jamaica and two levels above Greece and Ukraine.

The country's foreign-currency reserves may drop to about $45 billion by the end of 2016, according to estimates by Exotix Partners. "Iraq is probably the most oil-dependent country in the world, so falling oil prices, really, really hurt this country," Jakob Christensen, a London-based director at Exotix, says. Reserves "could drop significantly over the next two years if oil prices stay low and they don't adjust," he says. —*Arif Sharif and Lyubov Pronina*

The bottom line The Iraqi government's $6 billion bond programme will have to offer high interest rates to attract investors.

Equities

Dubai's Property Market Grounds Amlak

▶ The mortgage provider's share price sinks after heady return

▶ "We still have to see how their financing book grows"

Back in June, **Amlak Finance** rose by the maximum allowed for six straight days on Dubai's stock market as investors defied analyst warnings against buying the shares. Less than three months later, the Shariah-compliant mortgage provider was sinking more than five times faster than the emirate's benchmark index after peaking 1 July. "If you're looking for a gamble on the market, Amlak is your roulette table and you're betting on zero," Ahmed Shehada, the head of advisory and institutions at NBAD Securities, the brokerage of the UAE's biggest lender, says. "The company will need a long time before it starts reporting numbers that are worth mentioning."

> **"If you're looking for a gamble on the market, Amlak is your roulette table and you're betting on zero. The company will need a long time before it starts reporting numbers that are worth mentioning."—*Ahmed Shehada, head of advisory and institutions at NBAD Securities***

For Amlak, read Dubai's property market. Real-estate transactions in the Gulf business hub dropped almost 30 per cent in the year through July, according to the emirate's land department. Amlak's profit collapsed in the second quarter partly as clients repaid loans faster than it booked new business.

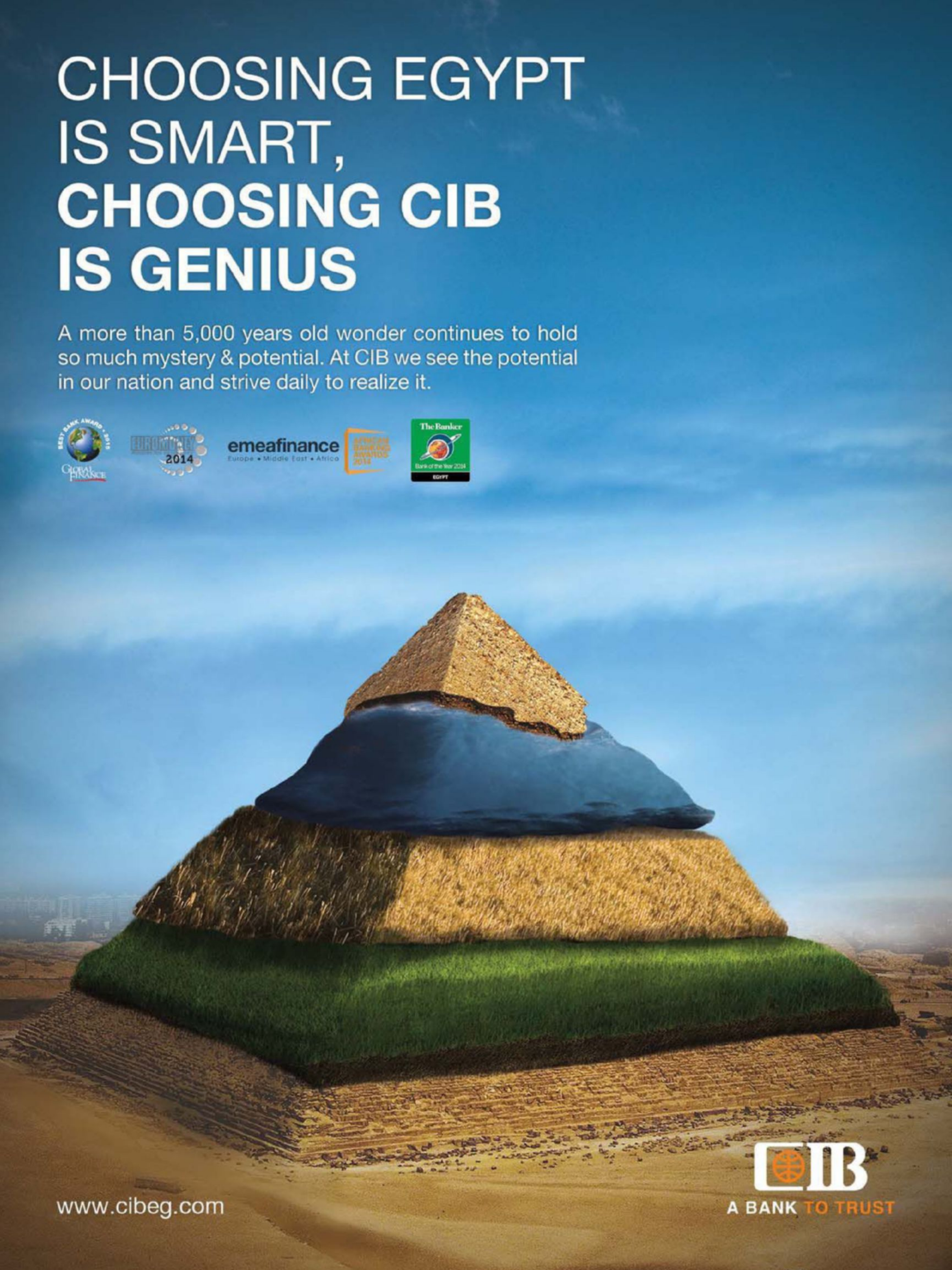
Investors had been warned. The same month that the company resumed trading following a six-and-a-half year suspension, Standard & Poor's said Dubai residential property prices may decline as much as 20 per cent this year due to falling demand and increased supply.

Amlak, which is 45 per cent owned by Dubai's flagship real estate developer **Emaar Properties**, was rescued by the government in 2008 after the global financial crisis tightened credit and forced the company to negotiate with lenders.

Investors snapped up Amlak shares when they resumed trading in June, buoyed by the company's restructuring plan. Shehada was among analysts who said at the time the stock was too expensive.

The company's profit slumped almost 90 ▶

ILLUSTRATIONS BY LA CHINA M, IMAGE: SHUTTERSTOCK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By Rahul Odedra

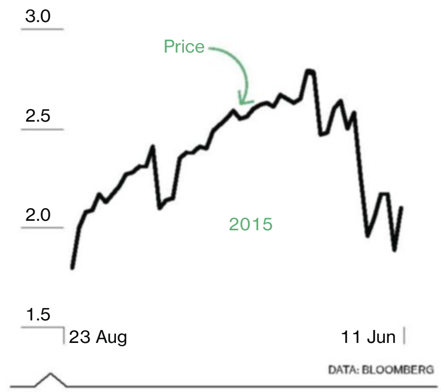
$75b

The United Arab Emirates and India are planning to create a $75 billion fund to support the expansion of India's network of railways, ports, roads, airports and industrial corridors, according to a joint statement at the end of Prime Minister Narendra Modi's visit to the country last month. The two nations also aim to increase trade by 60 per cent in the next five years. The UAE is already India's third-largest trade partner and home to more than 2 million Indians.

$27b	**IndiGo and Airbus come in for a landing.** India's largest airline confirms it will buy as many as 250 jets, which would be the most planes for Airbus in a single deal.
$1.4b	**Greece sells 14 airports to—guess who.** Germany's Fraport will have a 40-year concession. It's the first privatisation to be approved since Greece's latest bailout.
$1.3b	**Lebanon to tap international markets again.** The Arab world's most indebted nation is said to be planning to offer Eurobonds to fund its budget deficit.
$1.2b	**KBBO plans New York listing.** The Abu Dhabi-based investment firm is said to be seeking to raise $1.2 billion by selling shares in its Centurion and Infinite Investment units.
$391m	**Vroom, vvvrrrooommmm!** At Monterey Car Week, the auctions' total trailed last year's equivalent take of $403 million. Seven of the top 10 sales were Ferraris.
$375m	**Africa rising for Abraaj Group.** The Dubai-based emerging markets buyout firm has tapped into investor appetite for its North Africa private equity fund.
$3.35m	**Steering in a new direction.** Integrated Capital will discuss turnaround activities with other shareholders in Gulf Navigation after buying 5 per cent of the Dubai shipper.

Back Down to Earth

After soaring in its first few weeks of trading, the company's share price has falsharply



◀ per cent to 7.2 million dirhams ($2 million) in the second quarter compared with a year ago, as income from Islamic financing and investing declined 30 per cent. Amlak also had an expense of 51.4 million dirhams related to the amortisation of investment deposits. "While we are aware of our customers deleveraging or selling their properties, we tend to de-link this from our new business origination strategy," Arif Alharmi, chief executive officer of Amlak, says. "This will allow us to shift our customer base towards our desired target segment, which is the investor segment."

Amlak remains too dependent on the sale of real estate assets rather than on financing and isn't transparent enough about its restructuring, according to Vishal Gupta, assistant fund manager at Rasmala Investment Bank in Dubai. "This quarter isn't very promising," Gupta says. "We still have to see how their financing book grows."

Even after dropping 22 per cent since the peak, as of 17 August the stock was the best performer on Dubai's benchmark stock index since it re-started trading, more than doubling in price. NBAD's Shehada says the shares may be worth reconsidering should they drop toward 35 fils to 40 fils. That's at least 82 per cent below 17 August's opening price.

"When the markets start taking a dive, investors look for defensive plays, dividend yielders, deep-value companies, and unfortunately Amlak doesn't tick any of these boxes," he says. —*Daria Solovieva*

The bottom line Mortgage lender Amlak is struggling to retain investor confidence as the Dubai property market struggles.

ILLUSTRATIONS BY NADIA M


Emerson Buckley
CONDUCTOR

FREEZONES

By Stian Overdahl

MAKING THE CONNECTION

Trade and logistics are flourishing in the region, and Dubai South is attracting new businesses to its freezone with the promise of greater efficiency

If you want to know about logistics in the Middle East, talk to Nour Suliman, CEO of **DHL Express** Middle East and North Africa. His company has committed over $170 million on regional expansion projects, and has seen the Middle East become a pivot for freight movement between Europe, Asia and Africa as new trade patterns emerge.

The large investments by GCC governments on transport infrastructure are also making his job easier, with Suliman pointing to a remarkable change from 20 or even 10 years ago. “This has had a tremendous impact on the regional business scene from a trade and commerce perspective.”

The transportation and logistics industry makes a significant contribution to GDP in the GCC, accounting for $40 billion in revenues in 2013, or 2.5 per cent of GDP, according to a recent report from Al Masah Capital. The wider MENA region generated approximately $66 billion in revenues that year, 2.7 per cent of GDP. “The significant rise in external and internal merchandise trade activities will spur demand for the rapid evolution of transportation and logistics in the MENA region,” said Shailesh Dash, the asset management firm’s founder and CEO, on the report’s findings. Dubai in particular is viewed as the primary entry point by many global enterprises considering exports to the MENA region, he said.

Trade may be one of the oldest businesses in the Gulf, but that hasn’t stopped regional governments and businesses from working to constantly reinvent it. One of the most ambitious projects in the region is the **Dubai South** development, renamed in August from Dubai World Central. At its centre is Al Maktoum International Airport (AMIA), projected to eventually be the world’s largest, with a planned capacity of 220 million passengers and 16 million tonnes of cargo per year.

The 145 square kilometre site—roughly double the size of Hong Kong Island—is designed as a complex project with the airport as its focal point. Logistics, aviation and SMEs are the current focus, says Paolo Serra, vice president, Business Park, Dubai South. The Logistics District has attracted major freight companies such as **DHL** and **Aramex**, while **IKEA** is building its Middle East distribution centre—its first direct investment in the region.

Outside of the freezone, **Nestlé** Middle East is working on a $136 million factory, which is its eighteenth in the region. The new facility will give the food producer more flexibility to adapt its products to local consumer prefer-

"THIS AREA IS GOING TO BE THE AREA OF DEVELOPMENT IN DUBAI. WE'RE TALKING A MAJOR SHIFT TO THE BODY CENTRE OF THE DUBAI ECONOMY"

Paolo Serra,
Vice president, Business Park, Dubai South

ences says Rainer Mueller, the company's communications director.

Nestlé also has its Middle East headquarters in the Business Park, and the number of companies housed in Dubai South's eleven office buildings has grown fast says Serra—from a couple of hundred just two years ago, to now more than 2,000, including **Sinopec**, **Siemens** and **Samsung**. **Maersk** Training has opened its first facility in the Middle East inside the park. The focus on logistics and on aviation (businesses can have office space as well as air-side warehousing) has brought in companies, he says. SMEs is another focus, with smaller offices available at competitive prices.

The Business Park is proving attractive to companies that are setting up in the region for the first time to explore commercial opportunities, says Serra, and they recently conducted road shows in India and China to raise awareness. They also have business centres to cater to firms in China, with customer service representatives fluent in Chinese, translation services and consultation on UAE laws and regulations, as well as a similar centre for Japanese firms.

Workers at the firms can also benefit from growing air connections with the region: Passenger flights began in 2013 but are gradually ramping up. Low-cost operator **Flydubai** has said it will add extra flights from October.

There's also a logistics corridor between the Jebel Ali Port and Dubai South freezones, allowing the flow of goods without having to clear customs, something which many companies that are operating in the business park benefit from, says Serra. "This makes life for logistics operators extremely easy."

With major projects and infrastructure, including Expo 2020, Etihad Rail, new roads and the extension of the Dubai Metro, the connections to the planned city are set to continue to grow. According to Serra, their research suggests that almost 35 per cent of the GDP of Dubai will be produced between JAFZA and Dubai South. "This area is going to be the area of development in Dubai. We're talking a major shift to the body centre of the Dubai economy."

Announcing the recent name change to Dubai South, His Highness Sheikh Ahmed Bin Saeed Al Maktoum, the chairman of the **Dubai Aviation City Corporation**, said that the Government of Dubai had been working to build a new destination where individuals can empower themselves to achieve their legitimate aspirations to the greater good of society. "Dubai South is the emirate's flagship urban project that will set benchmarks for the rest of the emirate in terms of manifesting the themes of happiness as set out in Dubai Plan 2021," he said.

There are also forecasts that trade in the region will continue to grow: In air freight traffic the Middle East is set to outperform all other regions until 2032, says DHL's Suliman. He's witnessed a substantial surge in trade across the GCC bloc in the past five years, which has been mainly driven by the governments' focus on economic diversification, and significant investments in infrastructure development, multi-modal capabilities, regulatory frameworks and connectivity. "The new shape of globalisation has also helped boost economic activity and prompted new trade patterns and capital streams across the GCC."

THE UAE WANTS BIGGER PHARMA

Lower cost drugs are in demand. Incentives for manufacturers, including fast track approval, is helping supply

Late next year the UAE-based pharmaceutical distributor **Al Ittihad Drug Store** (IDS) will leap up the value chain when it opens Pharmax, a $20 million facility to manufacture generic pharmaceuticals in DuBiotech (a **TECOM** Business Park). By targeting the chronic illness sector with medicines to treat ailments including hypertension, diabetes and depression, the firm hopes to win over customers and then keep them for life, says its group CEO, Ahmad Tabari.

Generics have only about a 5-6 per cent market share in the GCC, with patented drugs dominating the landscape, according to a report from Alpen Capital published in 2013. That means that firms have to work hard to convert patients from branded drugs over to a generic. Tabari says that whether the medicine will be used for a short period, like an antibiotic, or to treat a long-term illness, the effort is roughly the same. "The bang for your buck is much better in the chronic medication sector. That's our view." The use of generics in the region is also set to grow as the UAE and wider GCC moves towards an insurance-based system, which creates more demand for lower cost medicine, says Marwan Abdulaziz, executive director of DuBiotech.

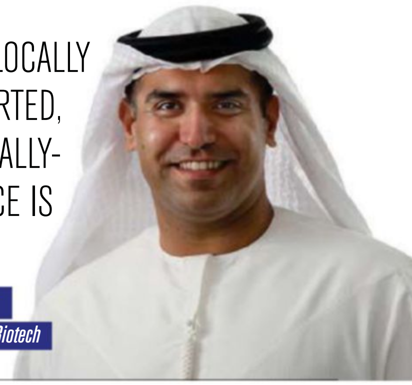
For IDS, moving up the value chain will allow the business to reap bigger margins, with prices in the distribution business set by the Ministry of Health. "You're lucky if you make 3-4 [per cent] net profit at the end of the year," says Tabari. While there's the hefty $20 million price tag for the new plant, which will employ around 25 highly skilled staff, Tabari—who received a law degree from Harvard and has worked as an investment banker—says the capital outlay isn't so significant in the context of their current running costs. "People underestimate the amount of capital you actually have often tied up in the distribution business," he says, with conversion cycles in the UAE extending to 270 or even 360 days. "Governments who buy medicine sometimes don't pay for a year or a year and a half."

The risks in manufacturing are mainly around building brand awareness, where it already has a track record as a distributor. "We don't see it as much of a risk as somebody else might, because we've had the experience in marketing and developing the brand and getting the product accepted by the consumer," says Tabari.

Eventually the company plans to export its product, across the GCC and to the wider region, with East Africa, Iran, Iraq and Libya all flagged as potential markets. "Setting up a factory for the UAE alone doesn't make a lot of sense," he says.

Pharmax will be the first company to set up pharmaceutical manufacturing in DuBiotech, says Abdulaziz. Alpen Capital says there are already eight manufacturers in the country, including Abu Dhabi-based Neophar-

> “IF THERE ARE TWO PRODUCTS, ONE A LOCALLY MANUFACTURED AND THE OTHER IMPORTED, THE PREFERENCE IS GIVEN TO THE LOCALLY-MANUFACTURED ONE, EVEN IF THE PRICE IS SLIGHTLY HIGHER”
>
> *Marwan Abdulaziz,*
> *Executive director of DuBiotech*



ma, which has tie-ups with **Pfizer** and **Merck Serono**, major international players that have offices in DuBiotech. Local players in the generic market include **Julphur**—the largest pharma manufacturer in the UAE—and **Global Pharma**, which began production of local generics last October, following Sanofi's purchase of a 66 per cent stake in the firm from Dubai Investments.

Moves to encourage manufacturing are part of a strategy to reduce costs and improve supply. “The healthcare landscape in the UAE is fast evolving and we are working closely with pharmaceutical companies to make the UAE the regional hub, which will positively impact the supply, distribution and pricing of drugs,” says Amin Hussain Al Amiri, the assistant undersecretary for Public Health Policy & Licensing Sector at MoH, speaking at the launch of Global Pharma's generic production last October.

Local production is being encouraged by the MoH through a basket of incentives around the fast-tracking of new drugs, and even preferential treatment in federal tenders. DuBiotech has also smoothed the path for its companies: TECOM signed a memorandum of understanding with the MoH in 2012, says Abdulaziz. “We have a concrete agreement with them, that they facilitate the approval for the companies in our freezone.”

Locally produced drugs will receive a fast-track approval by the ministry, within 6-12 months according to Tabari; overseas medicines, especially generics, normally take much longer—as much as 2-3 years. Within the federal tendering system there's also a preference for local medicines. “If there are two products, one locally manufactured and the other imported, the preference is given to the locally-manufactured one, even if the price is slightly higher,” says Abdulaziz.

With the UAE currently importing around 85-90 per cent of its drugs, Abdulaziz sees scope for the manufacturing sector to grow, partly driven by the insurance sector's demands for cheaper drugs. Generics are likely to be the target; there are at least 15 products coming off-patent by 2020, says Abdulaziz, and a company that is first to produce a new generic gains a market advantage.

But beyond manufacturing there's plenty of interest in further developing research activities, in line with the country's national innovation strategy. With the development of a new drug taking on average 15 years and close to $2 billion of investment from discovery to market, the day when a UAE company develops a new drug is still some time away. International companies are already segmenting out portions of research activities as part of the larger process. Also, clinical research organisations (CROs) are based in Dubai, working with hospitals in Abu Dhabi, Saudi Arabia and Egypt, says Abdulaziz.

And Dubai is playing to its strengths as a hub. Countries with large populations, such as China and India, have a natural advantage in attracting companies that want to conduct large-scale clinical trials. Instead, Dubai is focusing on the research phases—such as on the bench or in animals—that take place before a drug is tested in humans. Coordinating with countries in the region with large population bases like Egypt and Iran also holds promise.

The emphasis on developing the industry is being enhanced by new additions, both in clinics and the education sector, such as the upcoming Mohammed Bin Rashid University of Medicine and Health Sciences. Patient visits are also growing at **Dubai Healthcare City** (DHCC). In 2014, it recorded 1.2 million visits by patients, up from a million visits in 2013.

Medical tourists are also an important growth area, comprising 15 per cent of DHCC patients in 2014. A recent survey by DHCC of medical tourists found that 48 per cent come primarily from the GCC, while 32 per cent come from the wider Arab World. The remainder is made up of patients from Europe and Asia. The three most popular procedures were infertility treatments, followed by cosmetic treatments and dental in third. “The survey results indicate our strengths, positioning us as leaders in the healthcare sector among regional and international investors, physicians and patients,” says Dr. Fatma Al Sharaf, the senior manager for strategy and partner development at DHCC.

The freezone authority is currently making a push to attract more medical tourists: Phase 2 of DHCC is currently under construction, and will target this segment by introducing wellness concepts and pushing investment into attracting visitors. “Wellness tourism is a growing branch of medical tourism as people increasingly combine holidays with a holistic approach,” says Dr. Al Sharaf.

Abdulaziz says there's a feeling that the industry as a whole is growing in the right direction. “We attract the industry because of the facilities we have, the regulations and the activities. But it's important that we make sure that those players are engaged locally with the right stakeholders.”

INDUSTRIALISATION GATHERS STEAM IN RAK

As established bigger players settle in, Ras Al Khaimah's industrial cluster is attracting suppliers and SMEs

For a manufacturer of armoured vehicles there's an obvious logic to having manufacturing facilities in the Middle East. **Streit Group**, which produces a range of vehicles for military uses including armoured personnel carriers, has multiple facilities across the region, from Jordan to Iraq. But its factory in Ras Al Khaimah is by far the largest.

Earlier this year it inaugurated the second phase of its factory in the **Ras Al Khaimah Free Trade Zone**, adding significantly to production capacity (it can produce as many as 500 armoured vehicles per month), and adding a plant to produce safety and bulletproof glass. The Canadian company, which exports to Africa, the Middle East, and Southeast Asia from its RAK base, opened facilities in the UAE due to the "very good export regulations and freezone in-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frastructure, which allowed us to easily supply our target markets," says Steven Fletcher, Streit Group CEO. The facility also has a special forces training centre for advanced training on the vehicles, such as assault and anti-terror training for police, or riot control for ministry of interiors.

The global market for armoured vehicles is estimated to be worth $28.6 billion by 2019, according to research firm Markets and Markets; with growth forecast, Streit Group plans to continue its expansion in the UAE. That means more workers (its employees in the emirates already number above 1,000), and buying more products from local suppliers. While steel is imported from Sweden, "the bulk of our componentry is sourced locally," says Fletcher, whether locally produced or from traders. The company also sources its glass from a local producer to manufacture into safety and bulletproof glass.

Bringing in larger industrial companies has brought wide-ranging benefits for the emirate, says RAK FTZ's acting CEO Ramy Jallad, attracting international suppliers and SMEs that want to win business from the bigger companies. "It's a cluster-based approach."

Attracting SMEs is something that the emirate does well. Most recently RAK FTZ has seen a wave of new SMEs from Asia, especially China and Japan. The companies—whether small industrial outfits, general traders, or companies that manufacture in China and want to have a supply chain closer to their target market—are looking to established an international presence, and for some Ras Al Khaimah is the first step. They're attracted there by lower costs; many SMEs start by operating from just a desk, or out of offices that start as small as ten square metres. If things go well, they later upscale to a larger office or add warehouse space. Big companies are also able to benefit from lower costs, including building blue-collar labour accommodation adjacent to their industrial plant.

Indian businesses are one group that has recognised Ras Al Khaimah's value proposition: FDI from India to the emirate accounts for about 30 per cent of the total, compared with 14.2 per cent for the UAE as a whole in 2013, according to Alpen Capital (ME). Major Indian companies operating in Ras Al Khaimah Investment Authority (RAKIA) include **Ashok Leyland**, which produces around 250 buses a month, and **Eternity Technologies**, which manufactures a range of industrial batteries.

One large customer in the GCC is the oil and gas sector, and many Indian industrial companies that have set up shop are producing products, such as pipes, that are bought by national oil companies. But there are limitations: Despite higher purchasing parity in the Gulf, Indian firms have typically viewed the GCC market as "sub-optimal" due to its low population base of around 50 million compared with more than 1.2 billion in India, says Avinash Gupta, managing director at **Alpen Capital (ME)**. "In India, if you have the right kind of product or offering, you typically have a very large market size given the base population."

Gupta says that Indian firms considering manufacturing in the GCC are often looking at a wider play, to supply products to the GCC as well as to higher-population countries including Egypt and Iran, and markets in Africa.

Advantages in setting up a business in the GCC compared with India include simpler structuring of financing due to the dollar-pegged currencies (in India, borrowings in US dollars can only be used to pay for capital expenditure). "Here you can tailor your financing more effectively," says Gupta.

> "[THE UAE HAS] VERY, VERY GOOD EXPORT REGULATIONS AND FREEZONE INFRASTRUCTURE, WHICH ALLOWED US TO EASILY SUPPLY OUR TARGET MARKETS"

Steven Fletcher,
Streit Group CEO

Another benefit is the propensity for local sovereign wealth funds to provide equity funding for projects which they believe will create jobs or add to the local economy, such as an offer of land in exchange for a minority stake. "[Funds] are quite happy to take a minority stake, unlike some other places where an equity investor might ask for a higher stake, or to be an equal partner."

Alpen Capital (ME) is currently advising Zuari Agro Chemicals, a subsidiary of India's **Adventz Group**, on obtaining funding for a planned $850 million fertiliser plant to be located in RAK Maritime City. The financial advisor seeded the idea to their Indian client, says Gupta, and is currently helping Zuari Agro raise equity funding from a range of partners and raise debt capital from the banking system. The process is going "smoothly," says Gupta. "You choose the right contractor, the right technology, then you roll this out." It's not innovative or new, but it takes time."

THE TROUBLE WITH

When the prices of oil soared in the 1970s, consumers around the world railed against high fuel prices. The Gulf states celebrated: The massive windfall saw government revenues swell, in some cases by twentyfold and more in the space of a few years. Oil, which had represented just seven per cent of world trade in 1970, reached 21 per cent ten years later—a huge redistribution of global income to oil producers. It was to be short-lived, as oil prices tumbled in the '80s. This forced governments—which had saved little of the bloated revenues—to aggressively tighten fiscal policy. Saudi Arabia cut capital spending by 98 per cent from peak to trough.

With oil prices deflating since the start of 2015—dipping dramatically for a second time from the beginning of July—once again the Gulf faces fiscal deficits and spending cuts, which will impact on growth in the non-oil sector. There are some indications that, this time, things are different. High savings will allow most governments to maintain relatively generous spending levels, at least for the medium term; and there are signs that they're willing to wind back costly public spending, most notably the UAE's move in July to end fuel subsidies.

Is the situation really that different though? The region's dependence on oil is once more in sharp focus. States exporting a single commodity with a volatile price are not masters of their own economic destiny. Broader diversification would help insulate the non-oil economy from price shocks, could provide alternative revenue sources for governments, and offer a wider range of private jobs for citizens at a time when youth unemployment in the region is considerable. Though diversification has been a major plank of economic policy for governments since the 1970s, only the UAE—and particularly Dubai—has made significant progress. A survey of opinions among economists, academics and industry professionals yields the view that progress elsewhere in the Gulf has been "slow", "inconsistent," and even "a mirage."

To top it off, the most commonly used measure of diversification—the growth of non-oil sectors in the GDP—may tell us little about it. This metric can be deceptive since the high growth rates witnessed in recent years can be linked to the recycling of oil revenues through the economy, says Fuad Hasanov, an IMF economist based in Washington. That becomes apparent when you compare the economies of Bahrain and Singapore. In both you'll see diverse GDP structures, with a mix of oil and non-oil sectors. But cut to their export structure and the difference is stark: While Singapore has a broad mix—machinery and transport

It should be the foundation upon which diverse, sustainable economies are built–not an indispensible crutch. So why are Gulf states finding change so difficult?

By Stian Overdahl

equipment, refined hydrocarbons and manufactured goods–in Bahrain's case 79 per cent of exports are oil, while an additional 16 per cent are metals and aluminium.

Across the Gulf, non-oil exports have grown from 13 to 30 per cent of non-oil GDP across 2000 to 2013, according to IMF figures. But at the same time, export quality and export product diversification have stagnated. Much of the growth has come in capital intensive sectors–fertilisers, chemicals and metals–where investment tends to be state-driven and centrally planned.

Global experience shows that growing non-energy exports in a commodity exporting economy is difficult because energy revenues have a distortive effect. After the Netherlands began exploiting the major Groningen gas field in 1959, its currency rose as did wages in the service sector, reducing the competitiveness of its export sectors, including manufacturing. This became known as the "Dutch Disease."

With pegged currencies and low wages, the Dutch Disease affects the Gulf differently. Simply, the recycling of oil money crowds out development of the non-oil export sector. If left unchecked, Gulf states face missed chances for growth and ultimately a decline in living standards. Diversifying from its current level to the OECD benchmark would increase GCC GDP by 1.6 per cent, worth $17.7 billion per year, according to EY, equivalent to more than three quarters of the foreign direct investment (FDI) flow into the bloc in 2013. "No country wants to slide, and let other countries grow while you relatively stagnate," says Hasanov.

Look around the globe for diversification success stories and there are only a handful, such as Mexico, Indonesia, and Malaysia, which developed industry clusters before oil exports dropped. Hasanov and his colleague Reda Cherif have co-authored a number of IMF discussion papers on diversification in the Gulf (neither their papers nor their comments represent the official IMF line). They say that preparing the ground early is crucial, since it's not easy to quickly develop a non-oil tradable sector–made up of goods and services, typically high value, which companies can export–in addition to oil. "It takes a long time, decades probably."

The Gulf has made huge strides in infrastructure and human development indicators such as education and healthcare, but while these investments are a precondition for diversification to take place, they don't guarantee it will. Roads, highways and ports can be used for activities such as imports and food delivery rather than for growing exports,

says Hasanov. “It all depends on what these types of infrastructure are used for.”

Instead of developing products or services for exports, most private companies in the Gulf have focused on the non-tradable sector—including construction and real estate—services and producing low-tech goods for internal markets, because these are profitable and low-risk activities, says Cherif.

Developing tradables for export typically requires high investment in human capital, facilities and continual spending on new technologies to remain internationally competitive. Since exported goods must compete on the international marketplace, that makes it high risk from a business perspective. “Focusing on the non-tradable sector may be fine and rational for a company, but on a national level it may not be sufficient for the country as a whole,” says Cherif.

The presence of low-skilled expatriate workers willing to work for low wages also incentivises private companies to go in for low-tech, factor-intensive production structures resulting in low productivity, says Steffen Hertog, an associate professor at the London School of Economics and Political Science (LSE). He sees a parallel too in energy subsidies, which result in “energy-inefficient, low-tech choices among firms.”

Competition plays a role too. Where there are large interconnected companies that can regularly win contracts they have even less incentive to develop in the tradable sector, while smaller companies also find it harder to become established. The result is what Cherif and Hasanov term a “market failure” by the private sector. Significant energy and resources should be geared toward the goal of producing tradables for export, they say, with policy suggestions including export insurance guarantees, financing for export activities, or industrial clusters focused exclusively on export. However, growth in the tradable sector shouldn’t come at the expense of the non-tradable sector. “Non-oil tradables don’t have to be the biggest part of your economic pie, but it has to be the main part of your export structure,” says Hasanov.

Enhanced openness in Saudi Arabia’s economy, including the telecommunication and financial sectors, and more recently the aviation sector, will encourage local companies to play at a level with their international peers and make a higher contribution to diversification, says Fahad Al-Turki, chief economist at Jadwa Investments in Riyadh. “The efforts are there but the progress is slow.”

Two industry sectors that Gulf countries have successfully developed are metals–especially aluminium—and petrochemicals. The latter has meant that natural gas—which was treated as a waste product until the late ‘70s and early ’80s and flared—is now converted into a high-value product for export. In 2013, the GCC exported chemical products worth nearly $55 billion, while since 2000 the number of petrochemical projects in the region has doubled as the industry pursues a strategy of producing higher value products, says Dr. Abdulwahab Al-Sadoun the secretary general of the Gulf Petrochemicals & Chemicals Association.

Through the lens of an economist however, these developments don’t count as true diversification. “All these industries still rely on oil prices, and on oil prices staying high to drive growth,” says Jason Tuvey, Middle East economist at research firm Capital Economics. “So in that instance, diversification is still a bit of a mirage in most places.”

But petrochemicals are an important step for the Gulf since, by developing a sector where the region has obvious comparative advantages, links can be made with industries to add value to its output. Links are established to the construction and packaging industries—where growth is closely linked to the Gulf’s growing population—says Al-Sadoun, though linkages to higher value-added segments such as automotive, electrical appliances and renewables such as solar, remain nascent or in the planning phase. Links to secondary industries also help create jobs, something which capital-intensive industries—including oil—does poorly. According to Al-Sadoun, each job in the petrochemicals industry creates three indirect jobs. Producing higher value chemical products, moving down the value chain, also creates more employment. “The multiplier effect is significant.”

Developing higher value products requires investment in research and development, and Al-Sadoun expects that with the diversification drive, R&D spending will be increased. It’s currently low: Spending on R&D by petrochemical producers in the Gulf is currently less than 1 per cent of sales revenue, while the global average for the commodity sector is 2-2.5 per cent, says Al-Sadoun.

But with petrochemicals and other capital-intensive industrialisation projects developed using state-owned enterprises (SOEs), there may be limitations on their innovation. By mimicking Western corporate models and recruiting the best local managerial talent, Gulf SOEs have been successful in focusing on the economic imperatives of diversification, says Hertog. But it’s easier to use SOEs for catching up, when there are ready templates to copy and locally adjust. “It’s much harder to use SOEs to operate at the frontier of innovation, as some Gulf sheikhdoms are now trying to do in renewables, chemicals and aviation,” Hertog says. “Many economists think that innovation is best left to the private sector.”

Oman has a model of using sovereign funds to provide equity funding to private companies to encourage them to set up facilities. Fabio Scacciavillani, chief economist at the Oman Investment Fund, which has a reported $6 billion under management, says their model is Tamasek—the legendary wealth fund that helped drive the development of Singapore. The OIF is investing in firms that will consequently set up shop in Oman and help train nationals. The training programme a partner brings and how they have dealt with similar situations elsewhere is a factor in the decision whether to invest, says Scacciavillani. Investments have included a 40 per cent share in the Italian thermoplastic parts supplier Sigit, and a 30 per cent stake in Karwa Auto Motors, which is building a $200 million bus assembly plant in the Sultanate capable of producing 2,000 units per year. Ultimately Scacciavillani says he’d like to see a full factory for the production of automobiles set up in Oman, though he wouldn’t be drawn on an exact timeline. “We will go in steps, start with an assembly factory and then move up the value chain with a complete car manufactury.”

“All these industries still rely on oil prices, and on oil prices staying high to drive growth. So in that instance, diversification is still a bit of a mirage in most places.” ***Jason Tuvey, Middle East economist at economic research consultancy Capital Economics.***

Job creation is a critical component of diversification efforts. With the exception of Qatar, youth unemployment in the region ranges from 10 to 30 per cent, according to estimates by the International Labour Organisation. Meanwhile the GCC labour force is projected to increase by 1.2-1.6 million nationals across 2014-18, according to the IMF. The region is creating jobs: 5.4 million jobs were generated in the private sector between 2000 and 2010, but nearly 88 per cent were filled by non-nationals, and 85 per cent were low-skilled jobs. The challenge is not creating jobs, but creating jobs that nationals want.

At the heart of the incentive culture for nationals in the Gulf is preference for employment in the public sector. High pay, short hours, excellent job security and frequent holidays make the sector the employer of choice. It is also accommodating: In Saudi Arabia, UAE, Kuwait and Qatar the majority of the national labour force is employed by the public sector (in Oman the split is about 50/50). This preference even adds to the structural unemployment in the region, with some graduates preferring to wait months or even years for a public sector job rather than finding temporary work in the private sector, says David Jones, a labour market economist and managing director at The Talent Enterprise, a HR think-tank and consultancy based in Dubai.

Spending on public sector wages is high in the Gulf when compared internationally, growing from 7.4 per cent of GDP in 2008 to 9.4 per cent in 2013. But apart from the wage bill there are also productivity costs. With the public sector saturated there are career bottlenecks, says Jones, while for many workers dynamism is low. "From our research we see that levels of productivity, job satisfaction, employee engagement in the public sector are significantly lower among UAE and GCC nationals than those that do work in the private sector," he says.

The high pay on offer also diminishes entrepreneurial impulses among nationals. With private sector jobs less attractive because of lower wages, this makes the attendant drawbacks of starting a small business—long working hours, not getting paid regularly, and potentially starting with a loss-making situation—even less attractive for a GCC national. "Elsewhere in the world, SMEs are the ones that are leading employment growth. We don't see that in the GCC region at the moment," says Jones.

The best historical comparison for the GCC's current high public sector employment and government-directed approach—and "a good negative case study for the region"—is Eastern Europe in the latter part of the 20th century, Jones says. There, workers who were reliant on the state to provide them with employment didn't have incentives to invest in their own human capital or the various traits demanded by private employers, such as productivity and self-reliance. "There are still people of working age in those countries who are unemployable in a globalised, more integrated labour market because they were too dependent on others."

Martin Hvidt, a professor who teaches at Zayed University's Dubai campus, says that the virtual promise of public sector jobs means that within the educational track students are less likely to work hard in the classroom. "In this system you're not forced on your livelihood, to pursue education, to work hard, to get okay grades. We have a very large motivational issue in the education sector."

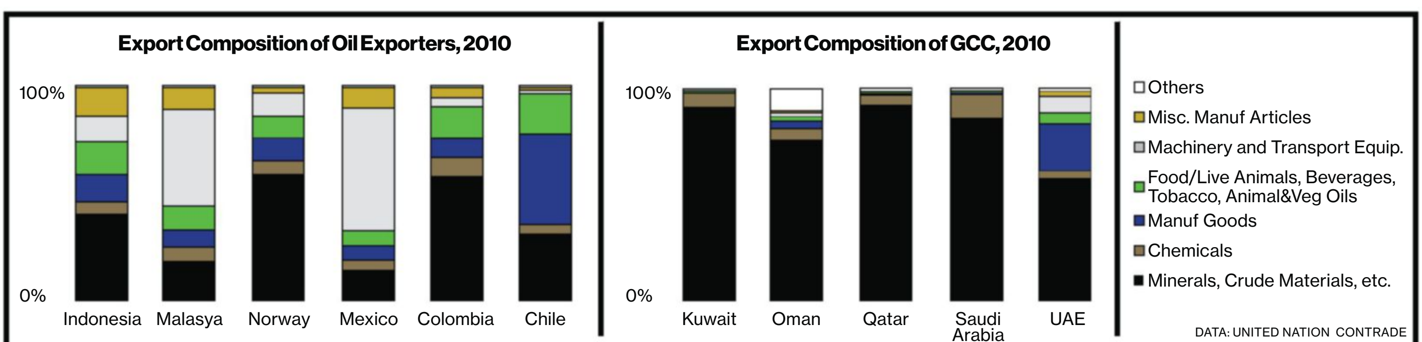
The preference for public sector work also affects decisions about what to study and for how long. Since upward mobility in the public sector is usually confined to management promotions, this discentivises nationals pursuing deeper knowledge within their professional fields, according to a paper by Hvidt on efforts to establish knowledge economies in the GCC. "Ambitious young professionals often only stay within their professional field for two to three years before they move into management jobs that likely draw very little on their professional training, [sending] clear signals to both students and professionals that in-depth professional knowledge is not valued."

Progress is being made across the region, most notably in Saudi Arabia, where the proportion of Saudi women in the formal labour force has tripled over the past five years, from nine to 27 per cent, says Jones. "That's quite a dramatic change, because it has unfrozen a very sclerotic labour market." But with GCC governments having set the goal of developing knowledge-based economies by 2030, at the midway point it's clear that the region isn't half-way there, and that the current incentive structure is partly to blame, he says. "If the GCC's aim is to be a knowledge based economy, it has to have people who are as productive or more productive and competitive and innovative than any other place in the world. The incentives to enable that need to be very much prioritised."

One solution that was urged by the IMF as recently as May is to reduce the gap between private and public sector wages. Managing this by lowering public sector wages is unlikely to be seen as tenable by policy makers, says Tuvey. "Harsh cuts to wages could stoke civil unrest." The other option is to raise private sector wages. Various governments have used programmes to subsidise wages for nationals working in the private sector, but these measures are often short-term, with further expansion unlikely to be fiscally attractive at a time of low oil prices.

Another option to raise wages across the board is further deregulation of the labour markets. National accounts data show that companies in the Gulf pay far less in wages than the global average, resulting in higher corporate profits. But low wages also keeps workers and businesses in a cycle of low-skilled work and low productivity. The current sponsorship system in the Gulf, though diluted in many cases, keeps private sector wages artificially low, according to research from Hertog. "It gives foreign employees a weak bargaining position, tends to generate wages that lie below marginal productivity, and provides foreigners with weak incentives to acquire new skills and improve their productivity."

Producing higher value goods for export would also result in higher wages for skilled workers, but for nationals to be ready to step into these jobs requires a greater focus on education outcomes geared for private sector work. A recent survey by EY, which canvassed 100 medium and large companies in the region, found that just 16 per



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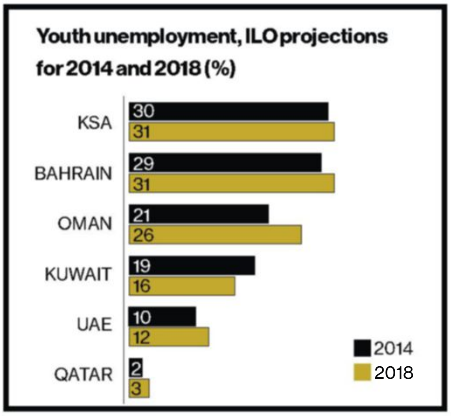


cent believed that curricula in place are currently aligned with private sector needs, (though the students themselves were more optimistic that they were receiving the right skills).

Despite the great leaps the Gulf has made in education in recent years, shortfalls remain many. The GCC's spending on education as a share of national income is below the global average, according to the IMF, and in other areas—aggregate years of schooling, enrolment rates in early childhood education and standardised test scores—the region also underperforms.

Governments are making efforts to address the issue: Programmes which aim to bridge the gap between the private sector and the education system are appearing across the region, while initiatives such as the King Abdullah Scholarship Programme are seeing large numbers of GCC students taking up study abroad. As Al-Sadoun says, students pursuing postgraduate studies are essential for driving innovation in the petrochemicals sector, and many of the leading companies, including SABIC, have their own scholarship programmes that allow students to study at top universities overseas.

The UAE is making a concerted effort to improve educational outcomes as it looks to increase R&D and other high-value activities as part of its national innovation strategy. Spending on education rose from 18 per cent of the federal budget in 2012 to 21 per cent by last year. Malek Al Malek, the CEO of TECOM Business Parks, says that the UAE has put in place an education programme that he expects will result in highly-educated candidates—such as technology and science graduates—who can work in the advanced private sector.

But he says that unlike a business initiative where an outcome can be expected within a relatively short time-frame, the development cycle for education is much longer. "It takes time and we understand this, and we have already invested to see the outcome in the coming years."

Funding and support is also available for entrepreneurs. Following the announcement of the UAE's national innovation strategy, last October TECOM Investments announced an innovation hub, incubation centres and funding mechanisms as well as training to attract entrepreneurs. "We want to see an Emirati creating a technology company. We want to see an Emirati create a media company," says Al Malek.

The Gulf states' approaches to diversification have changed over the years. One recent and positive change has been the breakdown of the "formerly predictable pattern of high oil prices and high public spending," says Michael Hasbani, EY's new markets leader at its MENA Advisory Services. Social and economic shifts mean that despite the low oil prices governments cannot stop public investment, he says. But changes are needed. Greater regional integration, a wave of tax reform, and privatisation are likely reforms that will be made to drive diversification forward, according to Hasbani

Levels of intraregional trade are low, at around 6 per cent, compared with the European Union, where intra-regional trade sits above 60 per cent, he says. Increasing regional economic integration, to the extent of treating the GCC as a single market, would create a larger and more lucrative customer base for businesses—both local and foreign—and reduce bureaucratic red tape, ultimately attracting higher levels of foreign direct investment, says Hasbani. Greater coordination would also allow for effective role allocation in the region, allowing countries to work off each other's strengths and synergies.

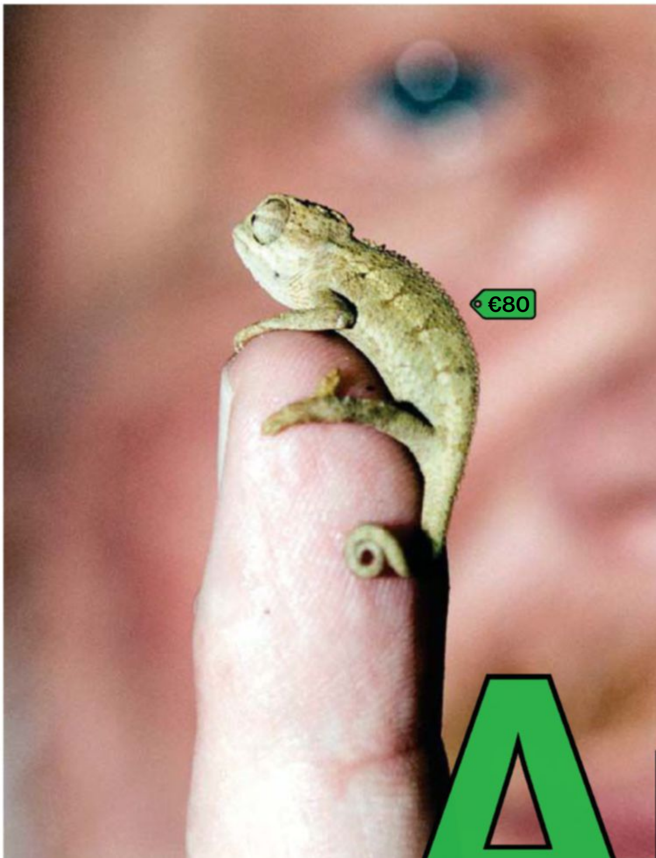
Tax reform would broaden government revenue bases, but also has other benefits: International experience shows that introducing taxation, causing a reallocation of profits, results in businesses striving to become more efficient, to drive a greater profit ethos within their organisations. "This instils greater innovation and creativity in the market place," says Hasbani. Meanwhile, privatisation is a solution to allow governments to continue to expand services and spend money in a more efficient manner, without compromising investments. In the first instance Hasbani sees traditionally public services being opened up for commercial tender, but he isn't ruling out the sale of public entities "at some point."

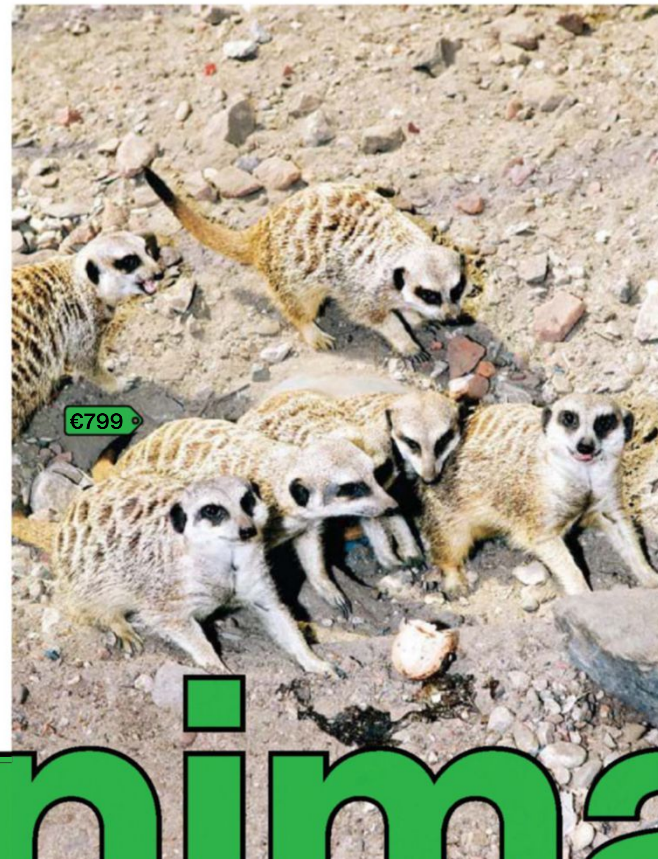
With governments certain to cut spending—whether they target current spending such as subsidies, or capital spending—it will have an impact on diversification efforts. And any pull back on capital investment "will clearly hurt efforts at diversification, insofar as there is progress being made," says Tuvey.

The UAE was applauded for its decision to deregulate its fuel market in July, the subsidies for which had been costing it an estimated 3 per cent of GDP per year. Whether other countries follow suit remains to be seen, and the IMF estimates that fuel subsidies will cost Saudi Arabia 4.6 per cent of GDP this year. Capital Economic's Tuvey points to the historical example of the kingdom in the '80s—when capital spending was slashed, while current spending was left untouched—as well as the state sector bonuses handed out earlier this year following the ascension to the throne of King Salman, suggesting that the kingdom is more likely to cut capital spending than subsidies or wages. Al-Turki says that there's scope for the Saudi government to cut capital spending without it proving disastrous for the private sector, pointing out that growth in capital spending has averaged around 27 per cent per annum for the past ten years.

But with most Gulf states having saved a large portion of their oil revenues in the recent high-price era, they aren't being pushed into making drastic changes. "If someone said to [Gulf rulers] now that in the future oil prices will stay at $50-60 for the next 30-40 years, they may start thinking a bit harder about it," Tuvey says. "But I think, at the minute, they're hoping that oil prices will eventually rise again." B

"Elsewhere in the world, SMEs are the ones that are leading employment growth. We don't see that in the GCC region at the moment." ***David Jones, labour market economist and managing director at The Talent Enterprise.***





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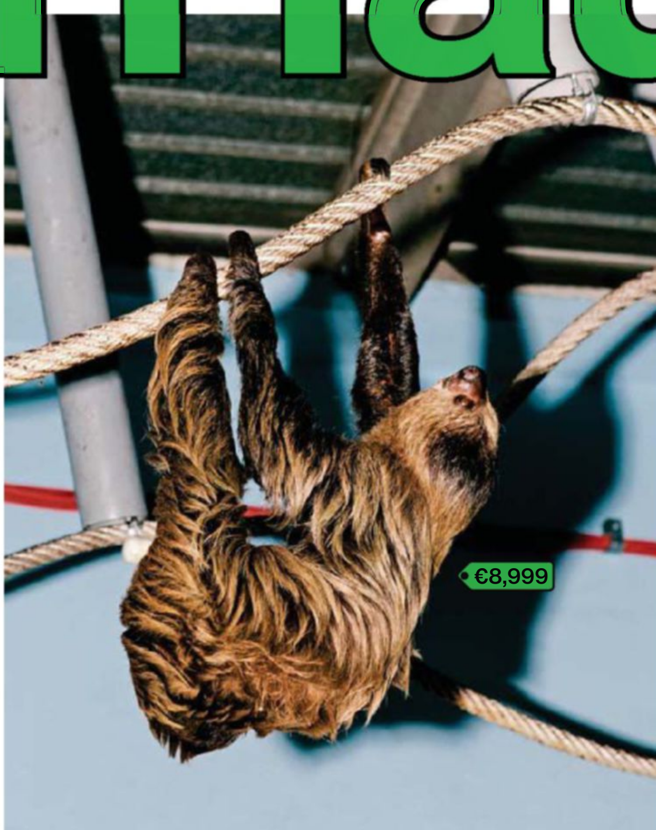
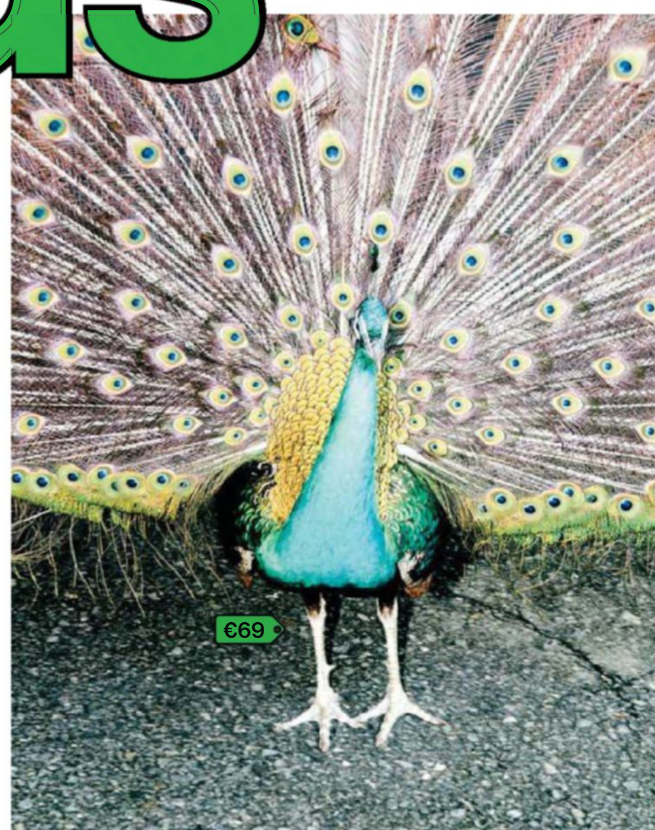




How Norbert Zajac built the world's biggest pet store

By
Ben Crair

Photographs by
Eriver Hijano

Norbert Zajac got his first pet, a golden hamster, when he was 4 years old. He took good care of her and bought a second hamster one year later. By the time he was 8, Zajac had bred more than 100 golden hamsters in the basement of his family's little home. His parents, a highway cop and a housewife in Gladbeck, Germany, said he could keep as many pets as he wanted, as long as he paid for them himself. Zajac began selling hamsters to local pet shops. He diversified, adding guinea pigs, salamanders, tortoises, and a crocodile. He took over the family garden and started raising birds. "When I found out about an animal, I wanted to hold it, and when I held an animal, I wanted to breed it," Zajac says. When he was 10, schools began taking field trips to his house. He became Germany's youngest licensed parrot breeder in 1967, when he was 13, and quickly cornered the local market on parakeets by training them to breed at Christmastime. At 14, Zajac asked a career counsellor what he should do with his life. He was told to become a steelworker.

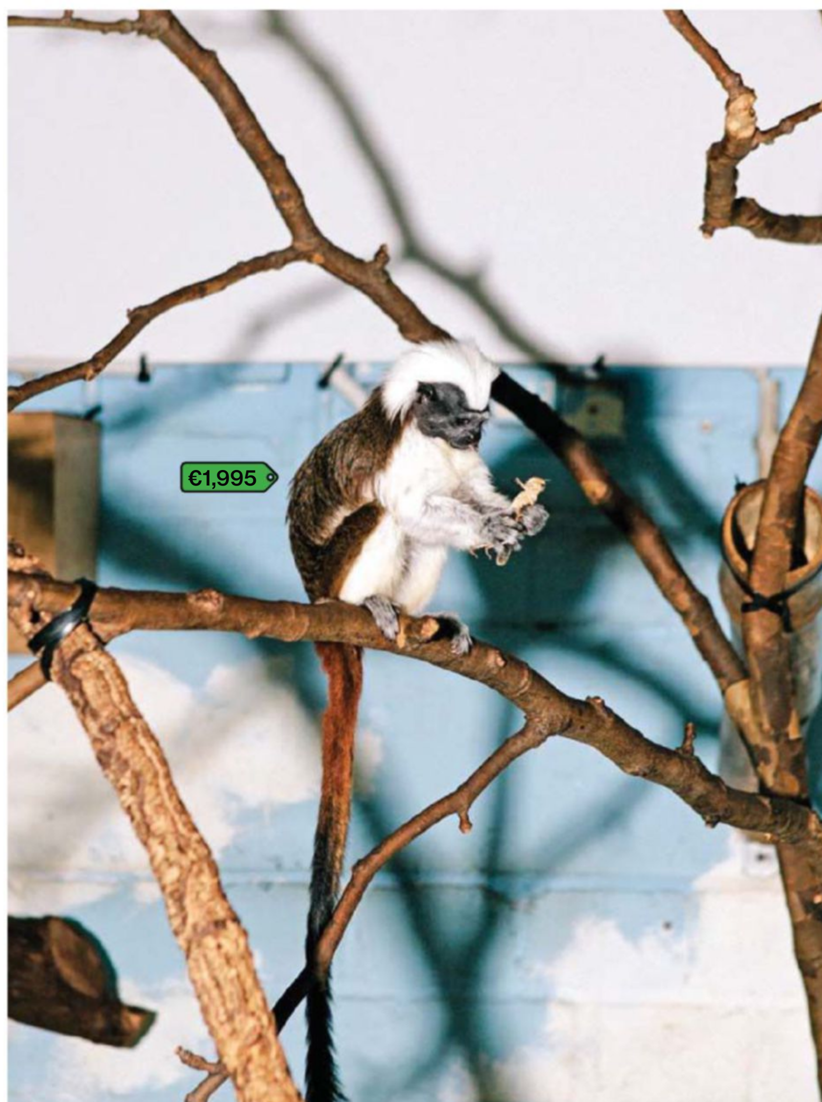
It was easy advice to give in the 1970s to a young man from the Ruhr Valley, the heart of the West German steel industry and the most populated part of the country. Zajac, who never graduated from high school, worked early shifts at the mill so he could be home to tend his animals before dusk. At 18, he sold most of his pets after he was conscripted into the military. Two years later he was working again at the steel mill when he saw an advertisement in the local paper. A pregnant woman in the city of Duisburg, near the Dutch border, was trying to sell her pet shop before she gave birth. Zajac borrowed money from his father and took over the small store on a quiet residential street in 1975.

Today, Zajac's pet shop fills a 12,000-square-metre warehouse in an industrial part of Duisburg. It's called Zoo Zajac, and it unfurls, like an airport terminal, along a horseshoe in the road. It's more than twice the size of the White House and three times as large as a Whole Foods Market. It is, according to *Guinness World Records*, the biggest pet shop in the world. A visitor can spend as much as €9,000 ($10,000) on a two-toed sloth or as little as €1.19 on a box of crickets. She can buy armadillos, meerkats, coatis, and monkeys; or fill aquariums with jellyfish, tetras, shellfish, and piranhas. Zoo Zajac sells 50 species of tarantula and maintains one of the finest reptile collections in western Europe—better, even, than many zoos. It houses about 250,000 individual animals of 3,000 different species. A walk around the place is essentially an endurance sport, which is why Zajac, a heavy man with two bad knees, zips up and down the aisles on a black moped. The vehicle never leaves the premises and logs more than 4,000 kilometres a year.

Zoo Zajac has become for the Ruhr Valley what Zajac's childhood home was for his classmates. "It's almost used as a gratis zoo by the people," says Ulrich Schürer, the former director of the nearby Zoo Wuppertal. As many as 12,000 visitors will arrive on a Saturday, and many of them won't buy anything at all, except for perhaps a currywurst or coffee at the cafeteria. Even the proper customers rarely obtain animals; the majority purchase only the tens of thousands of pet-care products that line the shelves between Zoo Zajac's tanks and cages: everything from aquarium filters to dog leashes to eyedrops for turtles. Live animals are expensive to maintain in a pet shop, and demand is relatively small. In the US, they make up only 6 percent of the retail pet market. "A pet store mostly subsists off of accessories and merchandise associated with the animal," Zajac says. "If I just sold only animals, I would lose €250,000 a year."

This has given rise to what he calls, sneeringly, "*Die Tierhandlung ohne Tiere,*" or "the pet shop without pets." Many of the most successful pet businesses have stopped selling animals or scaled back to just a few low-maintenance species, even though their customers are crazier than ever about their little friends. In Western countries, where family sizes are shrinking, pet owners no longer treat their animals as property but as children, pampering them with products and services that would have once seemed ridiculous: bottled water, gluten-free kibble, doggy diapers, designer beds. The "humanisation" trend has benefited more than just animals. The US pet industry has more than tripled, to $60 billion, over the past 20 years, and pet care was one of the few retail industries to grow during the Great Recession.

Much of that growth, though, has accrued to big-box retailers rather than small pet shops. Chains slashed operating costs by eliminating live animals and exploited economies of scale to sell an ever-increasing variety of products as cheaply as pos-



A cotton-top tamarin enjoys a grasshopper

sible. In the US, PetSmart and Petco Animal Supplies capture more than half of industry revenue. In Germany, the pet-care chain Fressnapf operates more than 800 locations and claims nearly a third of all sales, according to the research firm Euromonitor International. Germany still has more than 5,000 independent pet shops, but their market share has dwindled to less than 15 per cent.

"See the Bible, David and Goliath," says Zajac. "I am the little one with the slingshot." It's not the identification you would expect from the owner of the biggest pet shop in the world, but bigness was, for Zajac, an adaptation. While many independent shops disappeared or turned to high-end services like grooming or day care, Zajac took the opposite tack. He survived not through specialisation, but through spectacle—by building a pet shop so large that it has gravitational pull. "Zoo Zajac's consumer experience is its advantage," says Antje Schreiber, a spokeswoman for the German Pet Trade & Industry Association. "If you don't look like a zoo today, your physical retail will have problems in the future."

Zoo Zajac is the only pet store in Germany where customers can buy a dog

Zajac's personal tour of Zoo Zajac can last as long as five hours and never less than two. Highlights include Zajac feeding grasshoppers to a family of little monkeys, who bite off the heads and gobble up the bodies two-handed, like a hoagie; a call-and-response duet between peacocks and the horn on Zajac's moped; and Zajac's T-shirt. He wears only animal-themed shirts from The Mountain, the clothier whose Three Wolf Moon design became an Internet meme after a sarcastic Amazon.com reviewer praised its ability to attract women. Zajac is particularly fond of shirts that spread the image of an animal, like a manatee or a gorilla, from his shoulders to his navel, as if his ample torso were an IMAX screen. "I think I am the only man who can fit two whole elephants on his shirt," he said recently, while looking through his wardrobe.

During a tour, Zajac might also feed fresh eggs from his chickens to a monitor lizard, or take you through the reptile tanks, which are stacked three high in long rows, like televisions in the window of an old electronics store. He'll tell you to look up when you pass underneath the sloths, who hang from ropes and branches on the ceiling. He'll warn you not to pet the ferrets: Last year he called five ambulances for ferret bites alone. After he's led you through the exotic mammals, the terrarium, the garden, the aquarium, the puppies, the birds, and the small mammals, he might take you to the parking lot for one of his favorite shows of all.

On a recent Saturday morning, Zajac rested his hand on the trunk of a customer's car and leaned over to examine the licence plate. "Cologne," he said. "A hundred kilometres." Zajac had left his moped inside, so he shuffled to the next car and inspected its licence plate as well. "Wuppertal," he said. "Eighty kilometres." He continued down the row of tiny European vehicles, estimating the distance of their journey to his store. Zajac was disappointed to find only a couple of international visitors, from the Netherlands; often he finds plates from hundreds of miles away, in France, Poland, and the UK.

Germany isn't the country where most people would expect to find the world's biggest pet shop. Most German businesses are modest enterprises, and consumers there aren't impressed by immensity in and of itself. But German pet ownership, like many German enthusiasms, gets a little weird. In the US the humanisation trend has ridden largely on the backs of dogs and cats, whose owners spend the most money on their pets but are the least likely to buy their animals in pet shops. Germany, however, has some of the lowest rates of dog and cat ownership in all of Europe. Instead, there's an abundance of so-called exotic pets. Germans keep more small mammals—everything from chinchillas to ferrets to rabbits—per capita than all other Europeans, save the Dutch, and the country also has large populations of reptiles and fish.

Partly this is because of a "dog tax" that Germany imposes on owners of man's best friend, but there are other reasons for the popularity of rodents and reptiles. These animals suit Germans' famously fastidious lifestyles. "Small animals make less mess," Zajac says, "and they do not bother the neighbours." (A majority of Germans live in apartment buildings, while most western Europeans live in single-family homes.) Germans are also, by reputation, more analytical than sentimental, which could help explain their interest in animals that are observed in tanks or cages rather than commingled in the family home. In 2011, for instance, a group of British and Australian researchers counted 98 reptile shows in the European Union, 41 of which were in Germany. No other country had more than 15. Similarly, 7 of the 10 most visited European zoos in 2013 were in Germany, and the remaining three were in German-speaking Austria and Switzerland. (Zoo Zajac, which has about 1 million annual visitors, would rank in the top 30 of European zoos if it were eligible.)

Zajac always understood his countrymen's attraction to unusual animals, and he never thought of his pet shop as a simple site of exchange. He learned shortly after buying his first shop in 1975 that people would come to see strange creatures even if they didn't want to buy them. "There was always something new to look at," he says, "and since customers were already there, they would just buy anything else they needed." He took this revelation as a licence to indulge his wildest pet fantasies. As a teenager, he'd tried to import animals from Singapore; as a shop owner, he hopped on an airplane and picked them up himself. He asked his customers which animals they dreamed of keeping and did his best to add them to the store.

Zoo Zajac's growth was fuelled by Germany's development into the European country with the most money and the lowest birthrate, the two factors that lead consumers to lavish money on their pets. Residents of North Rhine-Westphalia, the state that contains Duisburg, spend more on their pets

Zajac on his moped. He logs more than 4,000 kilometres a year inside the store

than any other Germans. Zajac used to laugh about customers who spoiled their pets like children, but by 2000 their behaviour was the norm. "Before, if somebody had a pond in their backyard, they would buy a bunch of goldfish at Easter and plant a bunch of flowers around the pond," he says. "One week after Easter, the plants would be dead and the goldfish would be dead, too. Now if you buy a goldfish and it gets sick, you take it to the veterinarian."

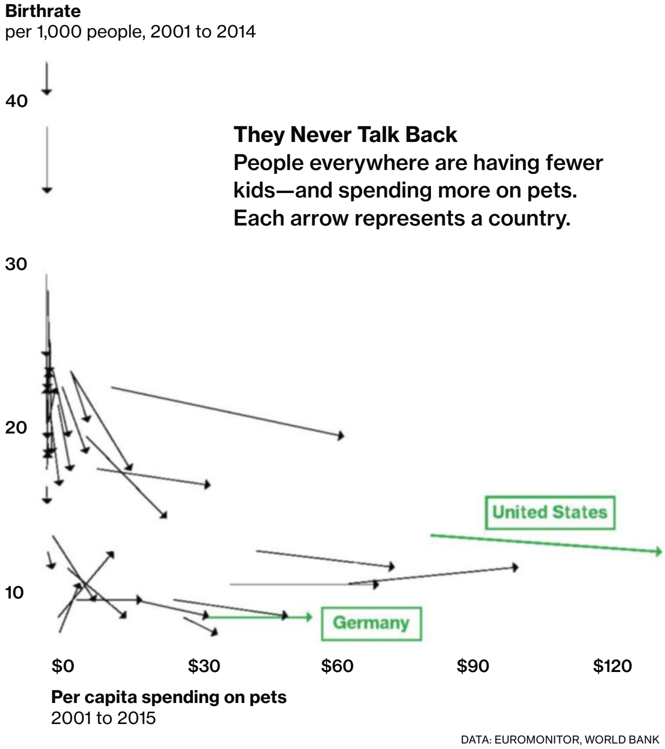
Zajac has observed customers asking more and more involved questions about their pets. "It's like family planning," he says. He filled his staff with certified experts and built a highly specialised bookshop. "Here, anytime anybody has a question, they can find an answer, and they'll still come back even if it's a little bit more expensive," Zajac says. Two years after he bought his first shop, which was 65 square metres, Zajac started renting space in the house next door. He converted a storage area into a saltwater aquarium floor in 1978. He bought the building in 1982, eventually taking over his other neighbour, too. Independent pet shops were beginning to come under pressure, but Zajac found new opportunities. He started a mail-order business in 1987, which grew in the 1990s to make up as much as 70 per cent of Zoo Zajac's total sales. (The catalogue today lists more than 600 pages of animal products.) He built a warehouse in the lot behind the shop in 1993, the same year he started organising huge exhibitions of tropical fish in convention halls in Duisburg. Tens of thousands of people travelled from all over the world to visit and participate, and Zajac dreamed of a permanent pet shop of a similar magnitude.

By the early 2000s, Zoo Zajac had claimed all the space it possibly could in its original location. "The building authority said if I built one more thing, they'd tear it all down," Zajac says. He started looking at industrial warehouses so he could continue growing. Banks were wary of lending money for such a mammoth upgrade, but the city of Duisburg stepped in to help. The steel industry had declined over the decades, and Duisburg was losing population every year. Zoo Zajac's 140 employees were important to the local economy, so the city offered to lease a warehouse to Zajac until he could afford to buy it. He wrote a fundraising notice in his catalogue, asking customers for loans to renovate the warehouse, which he would repay at 7 per cent interest—a better rate than he could get from any bank. He raised €2 million in three months.

Zoo Zajac opened in its current location on 17 November, 2004. A few months later, *Guinness World Records* paid a visit. Zoo Zajac was, at the time, two-thirds of its present size, still large enough to earn it the distinction of the biggest pet shop in the world. Zajac lives on the second floor in a modest apartment behind his office with his wife, Jutta, and a mother-daughter pair of dachshunds. "I had to help her give birth here on the living room table," he says. When Zajac is watching TV or relaxing in his hot tub, he's never more than a flight of stairs away from his animal collection, just like when he bred hamsters in his basement as a little boy.

In 2012, Zajac added a controversial mammal to his inventory. Animal-rights activists picketed the store and called him greedy and irresponsible. More than 25,000 people sent a protest letter from PETA that included a cartoon of Zajac strangling the creature with a price tag around its neck. Zajac says he received multiple bomb and death threats. One pet food manufacturer withdrew its products from the store's shelves. Even the German Pet Trade & Industry Association didn't support him. "He offers some animals that we, the association of this industry, aren't very happy with," Schreiber says. The addition wasn't vicious or endangered, but the most conventional pet of all. Zoo Zajac started selling puppies.

Zajac always sold dog food and supplies, but like all German pet shop owners, he'd stopped selling dogs themselves in the 1970s. He quit cats in 1985. People increasingly disapproved of the sale of the most affectionate species, and, despite



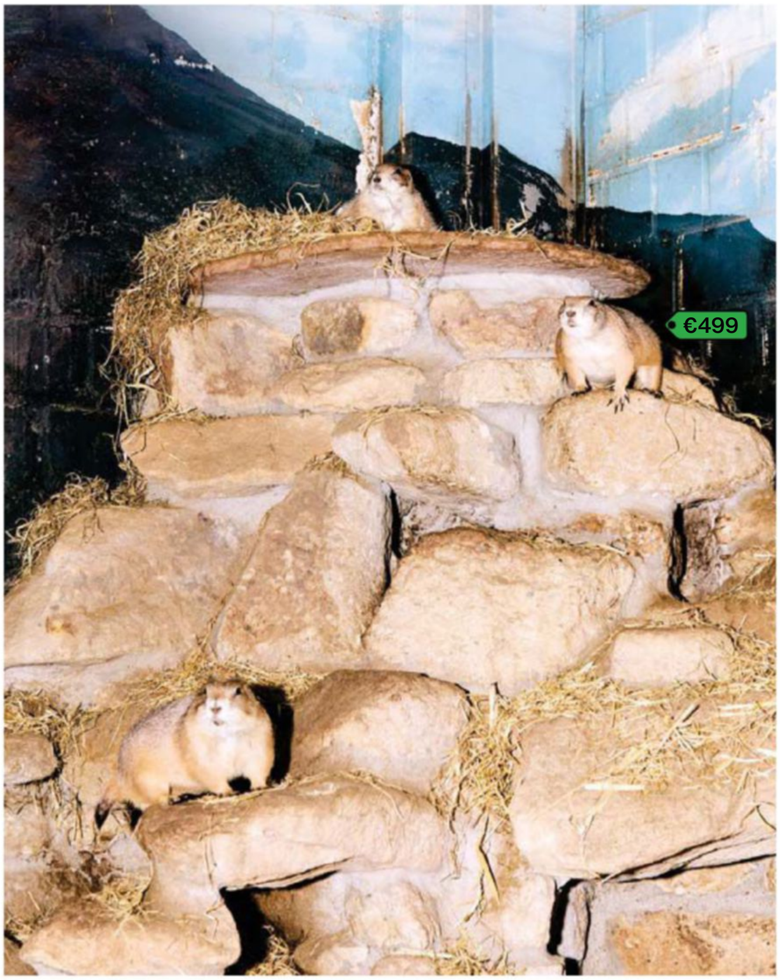
Zoo Zajac's continual growth, it was hard to find sufficient space for cats and dogs in the store. Germany never legally prohibited their sale, but no other German pet shop was selling dogs when Zoo Zajac resumed in 2012. (The shop had started selling purebred cats again in 2007.) Zajac spent €800,000 on large kennels with heated floors and outdoor sections.

Zajac was responding to a changing market. Germany's dog and cat populations are growing, and the country's small-mammal population shrank more than 20 per cent from 2008 to 2013, according to Euromonitor. Taste is becoming more conventional, shedding the quirks that made Zoo Zajac possible in the first place. But Germans may be no more willing than Americans to buy dogs and cats at pet stores. Zoo Zajac's puppy section is usually crowded with cooing spectators, but the shop has sold fewer dogs than anticipated–just 300 last year. And other pet shop owners have proved reluctant to follow his lead. Zoo Zajac is the only pet store in Germany where you can buy a dog.

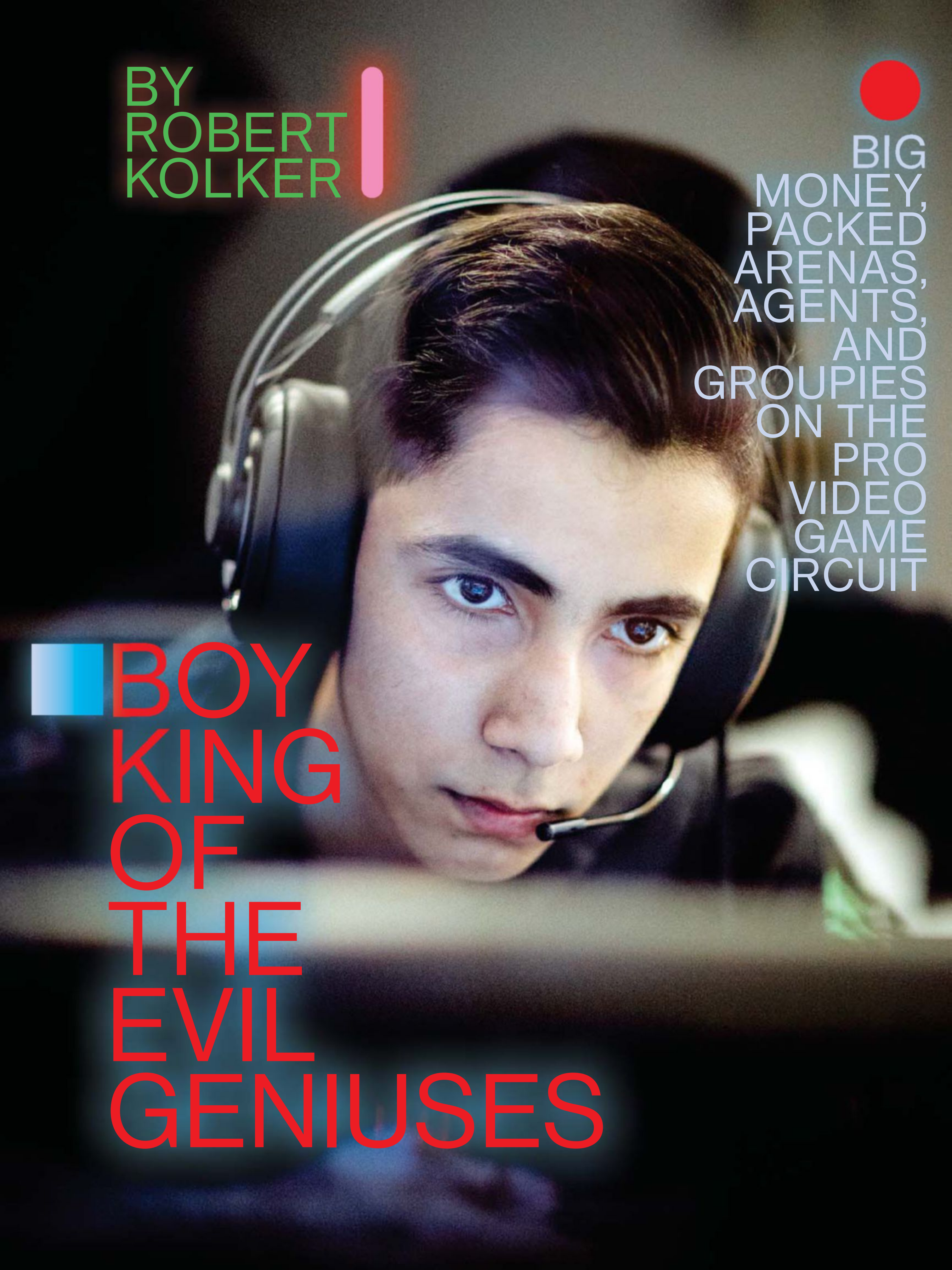
Other challenges are mounting. Chains such as Fressnapf keep encroaching on Zoo Zajac's business–there are 16 Fressnapfs now within 16 kilometres of Duisburg, and Zajac paid one a visit on a recent summer afternoon. "I have nothing in common with this store," he said, walking the aisles. It smelled of linoleum, not rawhide and wood chips, and in lieu of Zoo Zajac's bestial cacophony, there was only some faint Europop. Zajac saw no animals for sale. He noted with satisfaction that the shop was only about 600 square metres, but turned sour after counting just two workers. In the same amount of space, Zajac employs 10 people. (His total staff of 200 includes three full-time veterinarians.) It depressed him to see how cheaply Fressnapf priced its products. It's impossible to keep up. "In the last five years, we've sold 30 per cent more in products without making more money," he says. "We're actually fighting to survive."

There's also China, where Zajac fears his achievement will one day be surpassed. "I believe the Chinese can do anything," he says. And then there's the Internet. One of the curiosities about Zoo Zajac is that it grew big without growing modern. It has no central computer system and runs mostly off of paper: To answer a question about his daily operating costs, Zajac fetched a calculator and did the math. (His estimate: €25,000.) Zoo Zajac sells products online, but it's hard to build customer loyalty in a digital space where prices are so easily compared. "People come here because they want to have an experience," Zajac says. "Obviously, you can't experience things on the Internet." The Internet is hurting Zoo Zajac even when not cutting directly into sales: One of the store's draws has been its expertise, but now an answer is always just a Google search away.

The biggest question facing Zoo Zajac, though, may be whether it can outlive the man who built it. Zajac is just 60 years old, but he's not a paragon of health. He claims to have already died and been resuscitated on the operating table four times. The first three deaths came after he was stung by a lionfish at Zoo Zajac, and the fourth happened during knee replacement surgery. He's entrusted 49 per cent of the company to his eldest daughter, Katja Banaszak, who will run it when he's no longer able. She manages many of its business operations, while her father focuses on marketing and publicity. Banaszak is a thoughtful and soft-spoken woman with shoulder-length hair, rimless glasses, and a totally normal wardrobe. She admires her father, but she hasn't quite inherited his obsessions. "He always has extreme ideas," she says, with loving exasperation. "He wants to have penguins." Zajac thinks he can get them from a German zoo, but so far his daughter has persuaded him to hold off. Banaszak doesn't think the world's biggest pet shop needs penguins, or any other new animals. "It's big enough already." B



Prairie dogs in their pen



BY ROBERT KOLKER

BIG MONEY, PACKED ARENAS, AGENTS, AND GROUPIES ON THE PRO VIDEO GAME CIRCUIT

BOY KING OF THE EVIL GENIUSES

In the spring of 2014, after a decade of visa problems, the Hassan family moved out of its spacious house in Karachi, Pakistan, to an apartment in Rosemont, a suburb of Chicago near O'Hare International Airport. They were a family of eight, two parents and six kids, jammed into a three-bedroom space. Money was tight and work unsteady; for most of them, the move had been a struggle. But their 15-year-old son, Sumail, was thrilled—being in the US meant less lag time when he played Dota 2.

Like League of Legends and other free multiplayer online games, Dota 2 (short for Defense of the Ancients 2) rewards obsessives such as Sumail. Set in a mythical world of ogres, magicians, and "faerie" dragons, two teams of five "heroes" start on opposite corners of a square map scattered with forests and lava trenches and battle to take over the opposing team's base. The one and only goal is to secure the opposing team's "ancient"—a fountain with rejuvenating powers—before it gets yours. The gameplay moves as fast as basketball, but the complexity of characters, weapons, and spells rivals Dungeons & Dragons. Secure the "eye of Skadi" and you can slow a charging attacker to a crawl. The "shadow amulet" will make you invisible long enough to slip behind an enemy line. And for a few select players, there's more real-world money to be made at Dota 2 than any other game of its kind. The best of the best play at professional tournaments where teams compete for millions of dollars in prize money, and the most popular players can make about $1,000 just by streaming a game directly to their fans.

Sumail started playing Dota 2 as a 7-year-old. Even now, he's still small and spindly, with wide, soft eyes and toothpick arms. In Chicago, he put in minimum effort at a local public high school, making no friends and doing no homework; instead he spent all his spare time racking up impressive amateur credentials in Dota 2. While some players are all strategy, analysing the strengths of different characters and hanging back for the right time to strike, Sumail is pure reflex and aggression—the Dota 2 equivalent of a power forward. His favourite character is Storm Spirit, a quick, evasive avatar that fires lightning balls and drops decoys that injure enemies. Simply put, Sumail kills everything in sight.

STORM SPIRIT, SUMAIL'S FAVOURITE AVATAR

After a few months in the US, he qualified to play in a North American "in-house league," a sort of off-season competition for professional players. This was his shot, and it didn't take long for him to get noticed. In January, after Sumail slayed wave after wave of enchantresses, centaurs, and zombies, Charlie Yang, a 26-year-old Dota 2 player-turned-manager, flew to Chicago from San Francisco to visit the Hassans.

Sumail's mother, Huma, was there but not his father, Tatheer, a construction manager who had returned to Pakistan on business. Huma's English wasn't good enough to understand Yang, so Sumail's aunt and uncle helped translate. Yang said he managed Evil Geniuses, the highest-earning Dota 2 team in North America. The team would pay for Sumail to fly around the world for training and tournaments. He would earn a small stipend—less than $4,000 a month—but the real money would come from tournaments. After a 10 per cent cut for the owners, prize money would be split among the team's five players. The previous year's prize pool at the game's biggest tournament, held annually in August, was more than $10 million.

Sumail's mother said yes, as long as Sumail could still go to school. "She was a little anxious," Yang says. "But I think it's hard to deny your child an opportunity like this." Yang visited Sumail's teachers next, planning out his long absences. Yang set up a bank account for Sumail and had his tax forms done. A few weeks later, in February, Sumail and his teammates—each older than him by at least five years and each a legend in the game—flew to Shanghai for the Dota 2 Asian Championships, with a prize for the winning team of $1.2 million.

The Evil Geniuses were the third seed but, with Sumail's help, made it to the finals. The opponent was a Chinese team called Vici Gaming, which had the support of the packed arena's crowd. In the first five minutes of Game 3—the last of the final—Sumail got killed four times without scoring a single kill. It was a devastating start, and the announcers said the game was basically over. But when the other team started scattering players, Sumail struck.

His avatar weakened, he shot across the field in a lightning ball and somehow scored four kills in two minutes, to the disbelief of the opposing team and the announcers commenting for the live crowd. Minutes later, he darted out of the woods to help his teammates in a skirmish and, in an explosion of fire and lightning, blasted three more enemy players to death. Before Vici could respond, Sumail rushed up the centre of the map and secured the Ancient, winning the game and the tournament for Evil Geniuses. By the end, the crowd was chanting his name.

His payday after one month as a professional gamer, and just before his 16th birthday, was $200,000. By mid-August he could be a millionaire.

Cinderella stories like Sumail's are a reliable staple of e-sports. These are, after all, games anyone can play at home, and the prevalence of high-speed Internet allows practically everyone to play everyone else in the world. The promise that a player can be plucked from obscurity and win huge prize money is part of what makes e-sports so popular—so wildly and crazily popular. About 27 million people watched the final of last year's League of Legends championship, 9 million or so more than watched the San Antonio Spurs clinch a stunning Game 5 in the NBA Finals. And while many, including ESPN President John Skipper, maintain that e-sports aren't a real sport at all—"It's not a sport. It's a competition," he declared last year—that's not keeping ESPN from covering Dota 2's world championships, called the International, in August at Seattle's KeyArena, where Sumail and his team will be competing for a grand prize of more than $6 million. As Sumail put it in one of his first interviews at the Asia tournament in February: "You have to go pro or just leave it. It's a time waste if you're not going full pro. It's not for noobs."

After several false starts—remember the Cyber X Games of 2004 in Vegas? How about DirecTV and News Corp.'s Championship Gaming Series in 2007?—e-sports is finally on a roll, a $612 million global market with an audience of 134 million, according to analysis by SuperData Research. Ford, American Express, Coca-Cola, and Nissan Motor all sponsor e-sports; corporate sponsorships total $111 million in North America. An increasing number of tournaments and a pool of maturing talents, who by now have been playing games since they could walk, have transformed e-sports.

But what's really making it stick this time is live-streaming. "Having a platform available everywhere, all over the world, changed everything," says Marcus Graham, aka djWHEAT, the Bob Costas of e-sports, who hosts a programme on Twitch.tv, the live-streaming platform purchased by Amazon.com last year. Thirteen per cent of all live-stream viewers watch e-sports, according to SuperData, and almost half of all e-sports viewers in the US use Twitch. Google plans to launch a competing service, YouTube Gaming, before the end of the summer.

On Twitch, fans can watch games and practices and

SUMAIL RUSHED UP THE CENTRE AND SECURED THE ANCIENT, WINNING THE GAME AND THE TOURNAMENT. BY THE END, THE CROWD WAS CHANTING HIS NAME

E-SPORTS FANS AT MLG.TV ARENA IN COLUMBUS, OHIO

communicate directly with star players, offering an immediacy and intimacy no televised sport can match. In March the sports marketing research company Repucom reported that Twitch averaged more than 600,000 simultaneous viewers, reaching an audience of 51 million worldwide—already bigger than most American TV networks.

The big question is whether live-streaming a competitive video game will ever command the same ad rates as a TV broadcast of a game. Where the audience goes, will advertisers follow? Proof, perhaps, of e-sports' potential as a spectator sport is that 40 per cent of all e-sports viewers don't play the game themselves. The tens of thousands of fans—including groupies—swarming arenas to watch tournaments, as they're expected to for August's Dota 2 International, also signify a sea change. While Valve, the Bellevue, Washington company that makes Dota 2, contributed $1.6 million to the International's prize money, the rest is being crowdfunded. There is no other sport whose fans directly pay the prize money.

The No. 2-ranked team going into the tournament, by most measures, is Evil Geniuses. And the No. 1? That would be Team Secret, whose star player, Artour "Arteezy" Babaev, left Evil Geniuses suddenly last December, creating the opening that allowed Sumail to make his big-time debut. Their matchup will be the one to watch. You couldn't ask for a better rivalry.

All spring, Sumail's mystique grew. He amassed 30,000 Twitter followers. He hosted his own live-streamed games, where he appeared via webcam but never spoke. Fans asked about him constantly in chats and forums: Is he Muslim? (Yes.) Does he pray to Makkah? (No, but he keeps halal, which usually means lots of cheese pizza.) Can he drive? (No.) Does he live alone on the road? (No. Yang, the manager, usually shares a room with him.)

"Everything is based on skills, and I'm pretty skilled," Sumail texts when I first contact him in June. He's explaining why he was so drawn to this game. "I liked the part that you couldn't win with luck only."

Does he want to go to college?

"Hehe, No."

In mid-July, I catch up with Sumail at an office in downtown San Francisco, where he and his teammates are "bootcamping," practicing for days on end. The International starts in a few weeks, and the crowdfunded prize pool is approaching $17 million. The Evil Geniuses sit in a row in front of new PCs equipped with high-performance graphics cards and processors to support elite gaming. In matching team jackets with sponsor patches, the five players look like a Nascar pit crew. But to Sumail, the other four are rock stars—players whose games he'd followed from afar until just a few months ago. "I knew every one of them because every single one of them was famous," he says. Sumail speaks passable English with a noticeable accent and limited vocabulary, often straining to find the right word.

Like Sumail, each of his teammates is, in a way, Luke Skywalker—a small-town kid who left home to embrace his destiny. Saahil Arora, known as UNiVeRsE, is 25; he dropped out of the University of Wisconsin at Madison to play and became one of the top 10 earning e-sports players worldwide last year, making $586,149, according to esportsearnings.com. Arora met his current girlfriend through e-sports; she's a fan. Peter Dager, the team captain from Indiana, known as ppd, is right behind Arora in winnings with $581,748. Kurtis Ling, or Aui_2000, is 22 and hails from Vancouver. "I'm a male in my 20s who lives in my parents' basement and plays video games all day," he says, smiling. "I am an exact stereotype."

Clinton Loomis, known as Fear, is the grand old man of the team, a living legend at 27. The years have been less than kind to him: A chronic repetitive-stress injury sidelined him from last year's International, but he's well enough to play this year. "I've been playing Dota for so many years I don't really know anything else as far as work goes," he says. "It's really fun—it's

PREVIOUS SPREAD: TIMOTHY ARCHIBALD/BLOOMBERG; THIS SPREAD: CROWD: JOHN LOOMIS; EVIL GENIUSES: KORIE YANG

my passion—but I don't know if I can keep playing."

Loomis recognises the potential in Sumail. "He's just way more confident than most of the other people that I've played with that are younger," he says. "Some people would be nervous on the main stage because they're new. But I don't think he cares." Sumail (whose player handle is Suma1l) plays the middle lane, meaning he rushes up the centre of the map alone, picking fights, while the others worm their way up either side. Middle-lane players are the team muscle—the most visible and the most vulnerable. Choosing the right time to strengthen your teammates with "vampiric aura," or drop a paralysing cyclone on an enemy with "Eul's sceptre of divinity," comes down to split-second decisions. "It requires a lot of instinct to be able to read your opponent and catch very small mistakes and use them," says Phillip Aram, the team's assistant manager. "It's crazy a kid that young can do it."

As they scrimmage online with a team from Malaysia, there's no shouting, no pounding on keyboards, no chugging of Red Bull (unopened cans of Monster Energy, a sponsor, are next to their computers). They've seen too many pretournament boot camps where teams burn out before they even start their first competition game. They're trying not to play more than two long scrimmages a day, so they don't start snapping at one another. It's a light load for Sumail, who used to play 13 or 14 hours a day in Pakistan. Between games, they talk about when the next pizza is coming. There are no plans to hit town, no talk of anything that will take them away from the computers.

After handily beating the Malaysians, Sumail kills time by watching the live-stream of a pretty girl playing a game on Twitch. It's only a brief detour. Between team games he sneaks onto public servers under a pseudonym—today's is Straight Ballin. Under his real name, Sumail can draw as many as 10,000 people to watch his live-streamed practice games. He makes money through a mixture of subscriptions, ads, and donations. That's not an option for most players. Only 40 per cent make a living off gaming; Accenture consultant Prashob Menon says that on average, most e-athletes bring home about $7,000 a year in winnings. "For us, streaming money is such a small amount of the money we make," says Dager, the team captain. "There are so many tournaments. We're very busy. We have a lot of fans, but we don't have the time."

Player compensation is one of many areas where e-sports has some growing up to do. Game makers such as Valve and Los Angeles-based Riot Games still treat the pro scene as a marketing tool, not a moneymaker. Valve produces only the International, leaving others to host whatever Dota 2 tournaments they want during the year; the result is a chaotic, often punishing schedule. And the overall revenue brought in by e-sports is puny compared with, say, the $10 billion grossed by the National Football League or Major League Baseball or the $20 billion generated by European soccer leagues. The disorganised tournament schedule and the lack of standardisation between games and game makers leaves most advertisers confused about what exactly they should be sponsoring.

EVIL GENIUSES AT THE 2015 DOTA 2 ASIA CHAMPIONSHIPS

"We're getting there, in terms of media buyers being aware of this," says Alexander Garfield, the 30-year-old founder of GoodGame, the e-sports agency that owns the Evil Geniuses team (and was acquired by Twitch in December). "But if you're a mainstream consumer brand and you decide you want to put $10 million into e-sports, it's very hard to figure out where that money should go."

To get there, says Joost van Dreunen, an e-sports analyst with SuperData Research, the game makers may need to make the games themselves more tournament-friendly and accessible as a spectator sport—streamlining the rules or making the games easier for newcomers to follow. That, of course, might risk alienating the die-hard fans who've brought it this far. Tournament hosts and streaming platforms can also do more to build stories—team rivalries, human dramas—to make trajectories like Sumail's all the more valuable. A little posturing doesn't hurt, either. As Sumail tweeted in July, just before the start of boot camp: "With every ounce of my blood, with every breath in my lungs, wont stop until I am phenomenal."

Despite the mounting pressure, Sumail doesn't let on that he's homesick. "I mean, everything here is just a better version of there," he says of his move from Pakistan. He says his parents wanted to move here for a better education, but he often says his school is easier, too. He's absorbing American culture much as any 16-year-old with a highly developed methodical nature might: Each night during boot camp, in his hotel, he picks a movie from IMDb's top 250 list and watches it. He's currently on a Robert De Niro kick. "He's, like, one of my favourite actors," he says. *Taxi Driver*'s a favourite, and so's *The Godfather: Part II*, in which the actor's steady wariness seems to match Sumail's. Tonight he's switching gears and watching *The Rock*. He spotted Alcatraz on the ride to and from his hotel. He's curious about it—though he mentions with a laugh that he's too busy in his own prison to actually visit the place.

The highlight of Sumail's practice day is when he gets to play his 18-year-old brother, Yawar, remotely in a scrimmage. Yawar hasn't gone pro, though he'd like to. "He plays more than me. He's, like, more motivated than me," Sumail says. When Yawar's team is trounced by the Evil Geniuses, Sumail seems pleased: "Pretty fun."

Asked about the Evil Geniuses' chances at the International, Sumail stops short of any bold predictions. Instead, he focuses on what he might win and what he might bring back to his family. His tone is grave now. He knows what's at stake. The whole family remains in the three-bedroom apartment, and his father, who hasn't found steady work in the US, isn't back from Pakistan. Two of his older siblings are in college or about to start; a third is paralysed and needs to be cared for at home. If the Evil Geniuses win, each player's payday will be more than $1 million.

"That's a lot of money," he says. "I always wanted to buy my mother a house. That's all she wants." If nothing else, that could make all the time he spent in front of the computer back in Karachi worthwhile. "The other kids," he says with a smile, "were playing cricket." Ⓑ

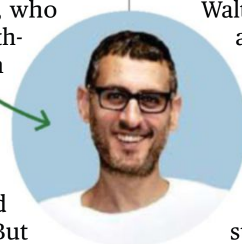
ETC

Selfie Publishing

What a highly personalised, best-selling storybook means for the future of kids' entertainment. By Felix Gillette

Illustrations by Golden Cosmos

A few years ago, Asi Sharabi was thumbing through a children's book his 3-year-old daughter received as a gift, trying to assess whether it was worthy of her bedtime rotation. This particular story had a trick to it, something Sharabi had never seen before. Prior to printing, it was personalised to include his daughter's name on some pages. "I got the warm and fuzzy feeling of seeing my daughter's name," Sharabi says. "But it lasted exactly two seconds. The book was total garbage."



It was 2012, and Sharabi was running a small ad-consulting firm in London. Around the same time, he'd read *The Lean Startup* by the American entrepreneur Eric Ries, who advocates that new companies adhere to a strict methodology, emphasising things such as data-driven experimentation and iterative product releases. As Sharabi pondered his daughter's book—powerful concept, shoddy execution—he thought Ries's ideas might apply. Sharabi did some online research and learned that personalised children's books had been around for decades, at least since the 1970s. But much of the technology, if you could even call it that, had remained static. The genre lacked any seminal texts. So he convened a small team of partners, consisting of writer David Cadji-Newby, illustrator Pedro Serapicos, and technologist Tal Oron. They set out to create a uniquely customisable—and, ideally, awe-inspiring—children's book.

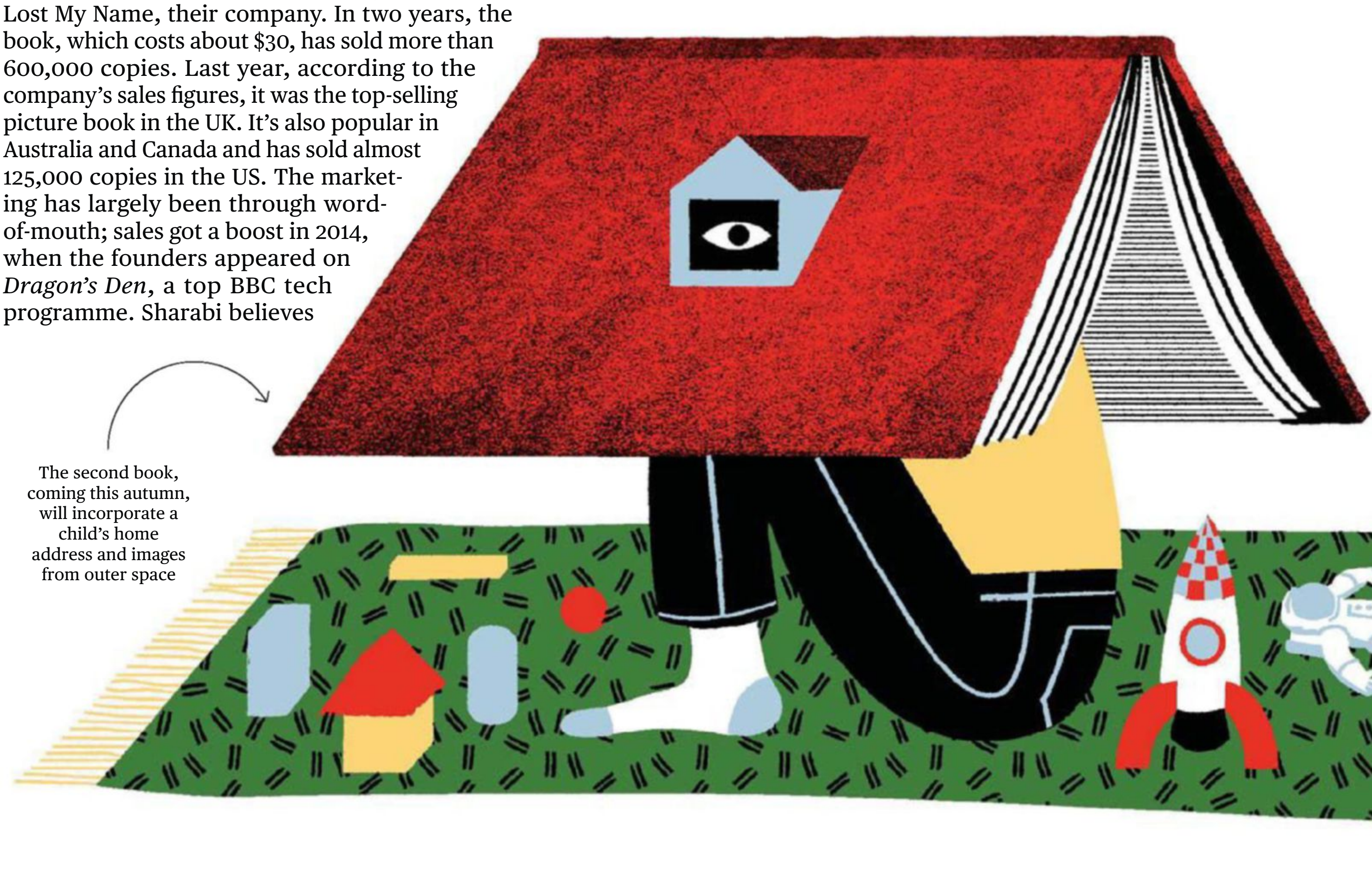
The result, alternatively called *The Little Boy/Girl Who Lost His/Her Name*, is now selling like gangbusters internationally. The four partners have quit their jobs to work full time on Lost My Name, their company. In two years, the book, which costs about $30, has sold more than 600,000 copies. Last year, according to the company's sales figures, it was the top-selling picture book in the UK. It's also popular in Australia and Canada and has sold almost 125,000 copies in the US. The marketing has largely been through word-of-mouth; sales got a boost in 2014, when the founders appeared on *Dragon's Den*, a top BBC tech programme. Sharabi believes his title is on track to join the canon of children's classics, including *The Very Hungry Caterpillar* and *Where the Wild Things Are*, which remain popular year after year, particularly as gifts to new parents. "We're building it as an evergreen proposition," he says. "Every book-loving family will have this."

Last year the children's and young-adult book and e-book market grew in the US by 20.9 per cent, topping $4.3 billion, according to the Association of American Publishers. The expanding market has attracted many entrants. Giants such as Walt Disney and independent publishers like Sourcebooks and KD Novelties are selling personalised children's books while also experimenting with personalised digital formats. Lost My Name is "facing a tremendous amount of competition," says Thad McIlroy, a book industry analyst who runs the Future of Publishing website.

"This was about picking

What makes Lost My Name different is its "full stack" business model, like that of eyewear company Warby Parker, which aims to control every aspect of a buyer's experience. The product isn't available in bookstores or on Amazon.com. To buy a copy, you have to visit Lost My Name's website, which ships for free anywhere in the world.

Parents start by typing in the name and gender of their child. The site's code uses the letters of the child's name to determine which of about 300 set story elements—a pirate searching for lost treasure, say—to compile, along with connective transitions, into a narrative. The plot follows a small



The second book, coming this autumn, will incorporate a child's home address and images from outer space

ILLUSTRATIONS BY GOLDEN COSMOS

child, suffering from an identity crisis of sorts, who proceeds on a journey of self-discovery. Along the way, she encounters a series of struggling creatures (aardvarks, mermaids, tarantulas, and so on), each of whom she helps. In return for her kindness, she receives a particular letter of the alphabet. By the end of the adventure, the child winds up in possession of her own name. “People send us videos of their kids getting to the last page and going completely bananas,” Sharabi says. “ ‘How did they do it, Mummy? How did they know my name?’ ” (It’s geared toward kids age 2 to 6.)

This being 2015, the four partners see traditional children’s books not only as entertainment but also as a narrative-delivery platform in need of disrupting. In June, Lost My Name closed on a $9 million round of Series A funding from a handful of well-known venture capital firms in the US—where Lost My Name would like to increase sales—including Google Ventures, Greycroft Partners, the Chernin Group, and Allen & Co.

up the best partners who can help us make this company as big as Pixar”

The backers believe Lost My Name can turn personalised mass media into the next thing in children’s entertainment. Dana Settle, co-founder of Greycroft Partners, says she frequently hears uninspiring funding pitches from media startups run by talented technologists who treat content like a common, easily sourced commodity or from gifted creative types with little appreciation for the technical and marketing challenges of the modern entertainment business. What made Lost My Name appealing, she says, is that its founders are simultaneously coming at it from the technical, creative, and business sides. “This is exactly the way to build a modern-day publishing platform,” Settle says.

SHARABI AND BOOKS: COURTESY LOST MY NAME

Before sceptics can cough-cough-shout “tech bubble,” Sharabi, 41, points out that, unlike many of the world’s hot startups, Lost My Name is profitable. “We have zero inventory,” he says. “We get paid for every book before we make it.” The company has millions in the bank. “We didn’t need to raise money,” Sharabi adds. “This was about picking up the best partners who can help us make this company as big as Pixar.”

The founders describe the company, somewhat predictably, as “platform agnostic.” Moving forward, they plan to expand from books into personalised animated movies. The technology to create and deliver a customised video, Sharabi concedes, is more challenging than that for print. How it will work remains unclear, though the company has created several prototypes.

Sharabi, who grew up in Rehovot, Israel, is adjusting to his nascent role as a startup visionary. He first moved to England 15 years ago to study at the London School of Economics and Political Science, where he earned a Ph.D. Eventually, he soured on academia and turned to advertising. Now he spends much of his time thinking about how to shape Lost My Name’s corporate culture. The company prides itself on being non-hierarchical, parent-friendly, and driven by engineering. “We are a technology company that happens to sell physical books,” Sharabi says. “I credit some of our success to the fact that none of us came from publishing backgrounds.”

Even so, says McIlroy, the industry analyst, the direct-to-consumer business model is likely to hamper the company’s quest for growth. A recent study by Nielsen found that 71 per cent of all purchases of children’s books are driven by in-store displays. “You look at surveys of why kids’ books are purchased, and you see that a lot of it depends on retail exposure,” he says.

Avoiding traditional retailers, Lost My Name is already building strong ties to its customers. There are 400,000 or so; many are repeat buyers, and lots of them have been pestering Lost My Name to sell them new products.

In an age of rampant social media and worries about children’s screen time, it’s easy to balk at the prospect of even more self-referential kids’ media. The company is aware of this problem. It’s vigilant against turning personalisation into another form of self-infatuation, Sharabi says. “We don’t want to create narcissistic entertainment for the selfie generation.”

This fall, Lost My Name plans to publish its second personalised book. To create it, customers will enter into the website a child’s address—there are no plans to sell this information—and the company will build a book that begins in outer space and ends at the kid’s doorstep. Along the way, the story will incorporate unique spatial elements from various data sources, including real NASA images. It will be more technically complex than the first book, which was done on a shoestring budget by a bunch of sleep-deprived fathers with full-time jobs.

Many of the 40 employees at the company’s new headquarters in London are working on the release. Seventeen are programmers. “We like the idea of quiet technology,” Sharabi says. “There’s tonnes of complexity behind a product that ultimately facilitates a very quiet, old-fashioned bonding moment.” Most parents don’t understand how many thousands of lines of code are behind every personalised book the company produces, he says. Nor do they care.

THE FUTURE IS BOSSLESS

Sceptical professionals adopt a guru's convoluted management system

By Rebecca Greenfield

For the last year and a half, Zappos has been experimenting with Holacracy, an avant-garde management strategy that eliminates bosses and hierarchy. By all accounts, the transition has been rocky. Not everyone at the Amazon.com-owned shoe retailer shares Chief Executive Officer Tony Hsieh's enthusiasm for giving up hard-earned positions on the corporate ladder. Many employees left, urged along by the three months' severance pay available to anyone who didn't want to join up. (Fourteen per cent of the Zappos workforce took the deal.) In late June, Hsieh extended a more attractive buyout to a smaller cohort. They have until the end of the year to decide.

Holacracy replaces the traditional top-down structure with an alternative org chart of circles within circles. Employees no longer take job titles; they inhabit roles that create autonomy. It's not anarchy: A series of highly structured "governance" and "tactical" meetings help define who does what. More than 300 organisations have dabbled in Holacracy over the past decade, including the Washington state government and David Allen Co., a productivity company owned by its namesake expert. In early June, Brian Robertson, the guru behind Holacracy, released a hardcover book heralding it as "the new management system for a rapidly changing world."

"Holacracy is like a sport or a new language," says Jake McCrea, who trains new employees at Zappos, the largest business to embrace the philosophy. "You can read about it, you can hear people tell you about it. You won't understand it until you start using it." A full transition can take a company years. HolacracyOne, a group run by Robertson, offers private sessions, starting at $50,000, in which a consultant leads a launch week, mixing lectures and workshops for your entire staff.

Medium, an online-publishing startup led by Twitter co-founder Evan Williams, relied heavily on HolacracyOne in 2012. Even so, the company has struggled with introducing new employees to the complex system. At one point, each rookie had to spend an hour with Jason Stirman, Medium's in-house Holacracy guide, to learn how to work autonomously.

STAFF SPENT AN HOUR LEARNING HOW TO WORK AUTONOMOUSLY

In June, after Zappos realised its new hires were perplexed, the company added a three-day Holacracy session to its orientation, already a time-consuming affair. (Nine years ago, the company designed a two-week indoctrination into its "fun" culture; that's since grown to four weeks.) Anyone who shows up late for the daily 7 a.m. start is fired on the spot. New hires take a final exam—and must score 90 per cent, or they're let go.

Holacracy first comes up in a three-hour lecture, though that will certainly not be the first time a new hire will have heard the H word. Relevant terms—"tension," "circle," and so on—are mentioned as early as the first interview. Hayden Balow learned about the system while applying for his role in human resources. "I heard mixed reactions," he says. People often come in with misconceptions that cause confusion, adds McCrea, the trainer.

His class highlights Holacracy's benefits—less emphasis on authority and a focus on giving everyone the power to make changes. "Our unique way of doing things will empower you in ways you've never dreamed possible," reads a handout. Doubters can leave the company, though the point of extra sessions is to reduce shrinkage. "I've worked enough jobs where it was the corporate structure—you follow this person's ideas and goals. I hated that," says DeVonTae Browne, a Zappos customer-service employee. "I'm pretty much buying whatever someone is selling, as far as Holacracy goes."

Tactical meetings, Holacracy's version of the weekly team gathering we all hate, tend to win over employees with their brevity—they move impressively fast. But that doesn't mean learning how to run them is an efficient process: Over the course of Zappos training, each person has to practice acting as a meeting facilitator two or three times. For June's class of 67 new employees, that added up to about 200 extra meetings.

So Holacracy's boss-free world sounds great, until you've got to spend the weeks learning how to do it properly. "I'm curious to see how it all works in practice," says Balow, the new HR employee, before adding politely: "It does seem a little bit long." ■

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DAVID MONCUR

48, principal, Moncur, Detroit

What's Moncur?
A branding and digital agency. We help companies market and sell what they do.

Who are your clients?
Professional firms—engineers, architects, lawyers, and accountants—people who offer sophisticated, hard-to-explain services that are very expensive.

Do you try to look a certain way for clients?
People hire me to develop brands, so when they see me, I should give them the feeling they're trying to buy.

What's your personal fashion brand?
I work to have things that are unique. People remember me for my hair and glasses a lot. These glasses are hand-stained blue at the temples and aren't widely available.

Your hair is silver.
It's half-black, half-white, and it creates this really cool textured silver colour. It's natural.

You have offices in Austin, Detroit, and Miami.
My wardrobe is full of things that play in all three markets. I can lose the coat or trade out the slacks for jeans.

You're kind of formal for a creative.
In my business, jeans and tennis shoes would never fly. They wouldn't entrust us with the brand of a gigantic corporation.

What do you pick out first?
I grab a shirt-and-jacket combo. Glasses are the last thing, if I need something highly contrasting.

Tight or loose?
Pretty fitted. I work hard to stay in very good shape, and I like to show that off a little.

PHOTOGRAPH BY CHRISTOPHER LEAMAN FOR BLOOMBERG BUSINESSWEEK

Interview by Arianne Cohen

How Did I Get Here?

JAMBU PALANIAPPAN

Regional general manager-Eastern Europe, Middle East & Africa, Uber

"I grew up in the bastion of technology and liberalism and I went to school in sort of the Deep South. I wouldn't have traded it for the world."

At the wheel with his grandfather

Education

St Francis High School, Palo Alto, California, USA, class of 2005

Vanderbilt University, Nashville, Tennessee, class of 2008

"I graduated right as the recession was starting to hit, in 2007-8. It was a really terrible time to be looking for a job. I felt really miserable about it."

Work Experience

2002-2007
Bus boy, journalist, political aide, analyst, intern

2007
Intern, Walmart

2009 – 2011
Analyst, Huron

2011 – 2012
Strategy & Business Development, Intuit

2012 – 2013
International Launcher, Uber

2013 – 2014,
Head of EMEA and India Expansion, Uber

2014 – Present,
Regional general manager-Eastern Europe, Middle East & Africa, Uber

"Here I am this 21-year-old kid and you end up in a room of CEOs and CFOs from the large healthcare organisations that are just kind of figuring out what their structure is going to be."

"My first day at Uber was 4 July, Independence Day, and I remember showing up at the office and not even realising that I couldn't get into the building."

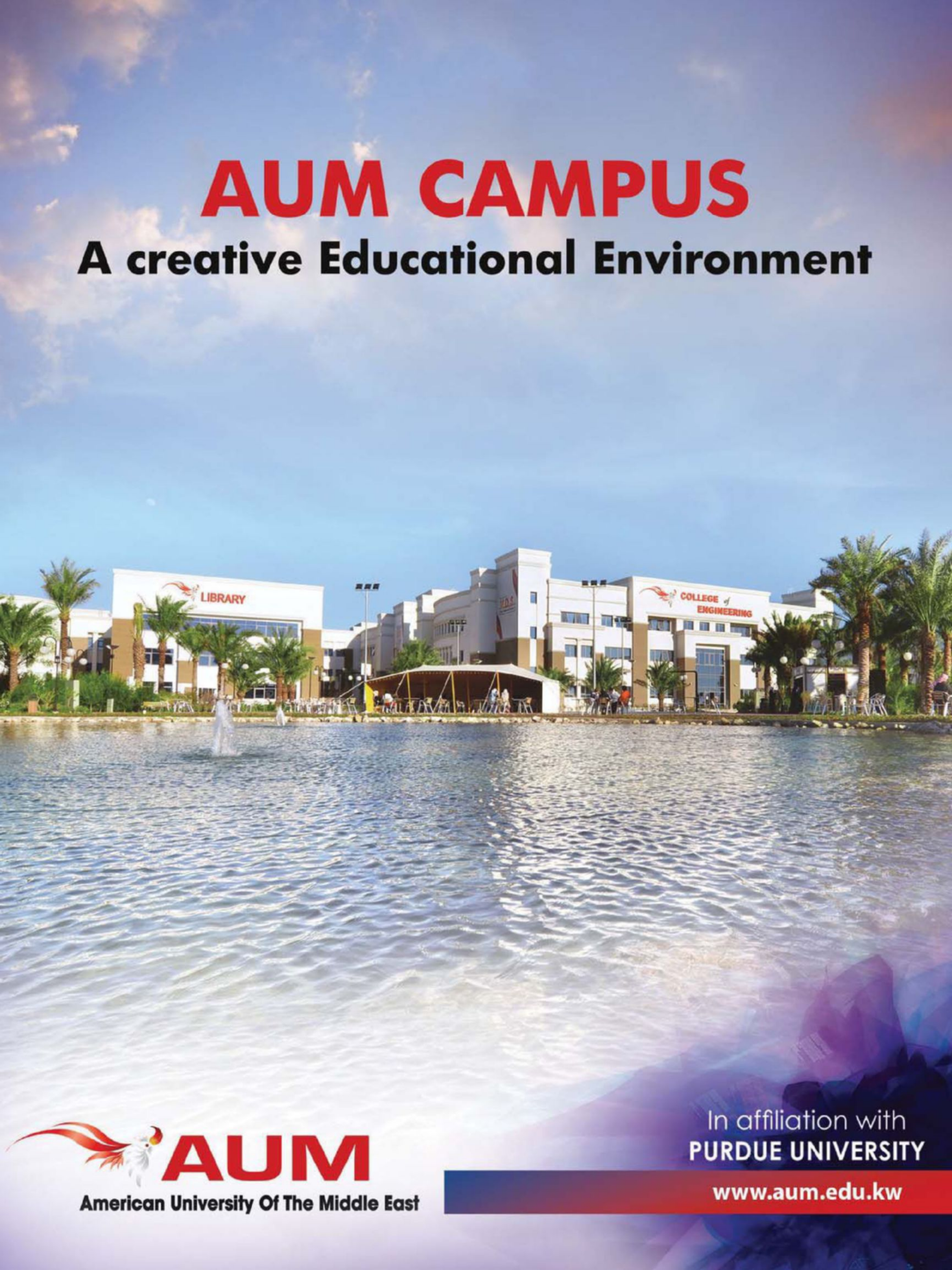
UBER

At an Uber launch in India with his grandmother

"Being in this part of the world and in this environment has informed me so much, and has become such a core component of who I am, that at least for now there is still plenty of room and plenty to do."

Life Lessons

1. "Something I've learned from Uber CEO Travis Kalanick: 'Fear is the disease, hustle is the antidote.'" **2.** "Don't underestimate the goodwill of others." **3.** "People's capacity to excel and lead is greater than their experience suggests."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